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THE ARCHITECT

VOLUME XVI · NUMBER 6
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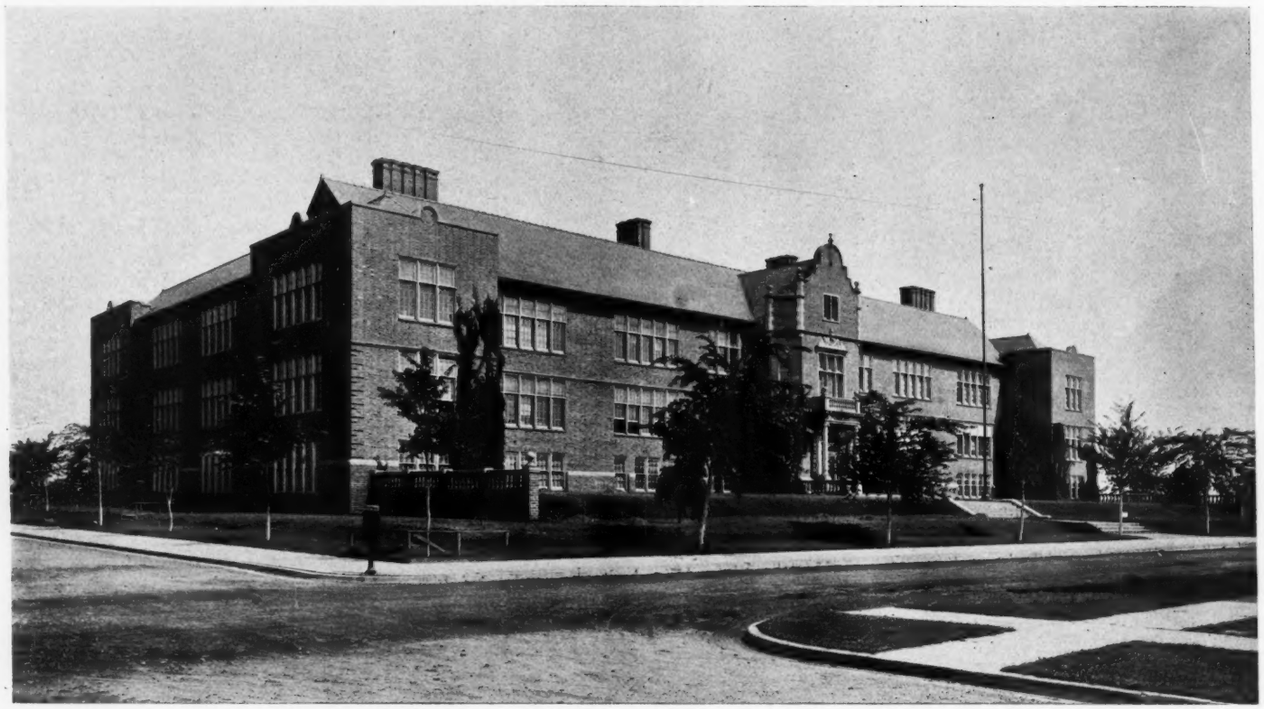

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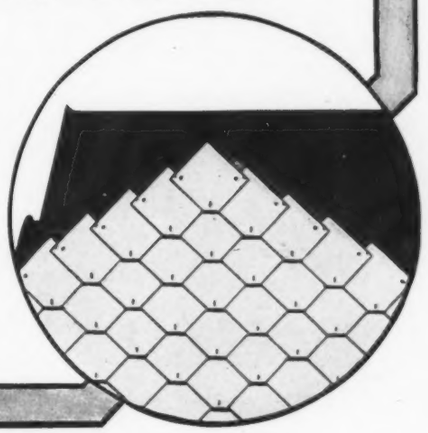

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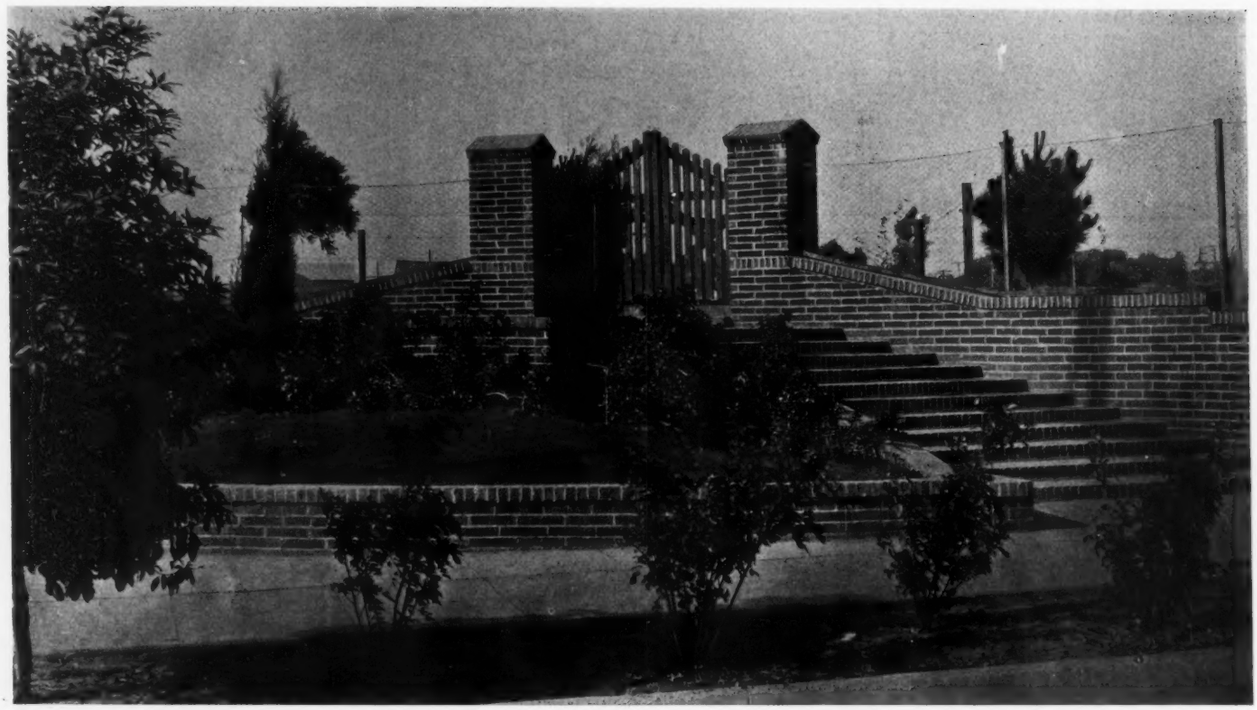

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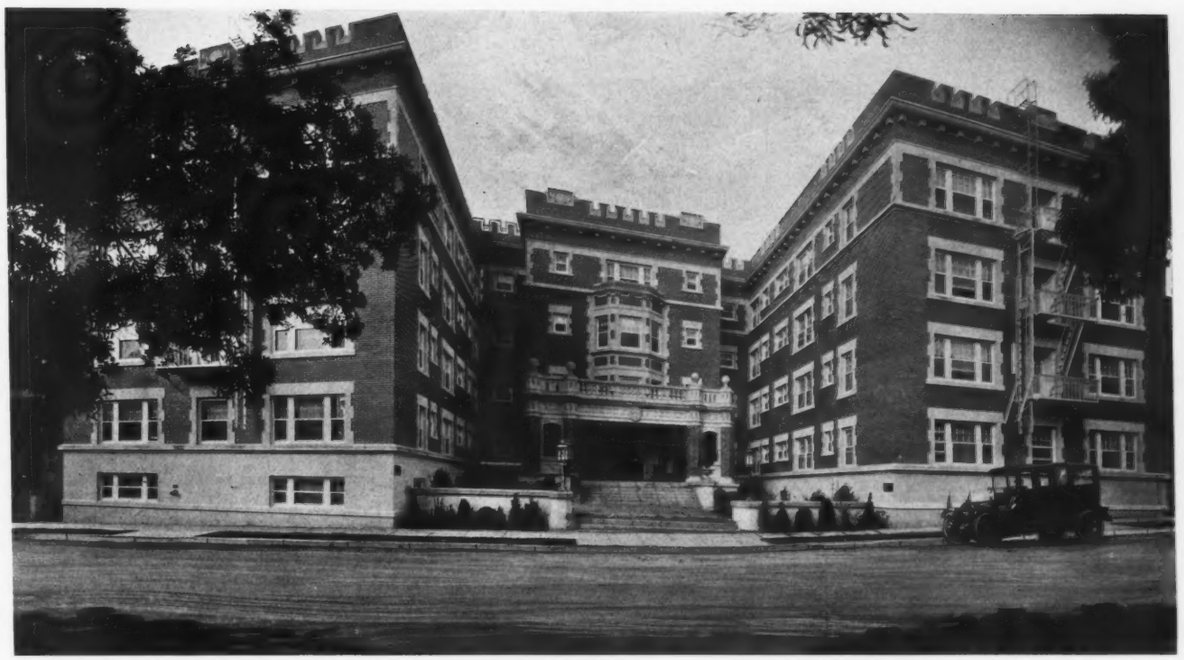

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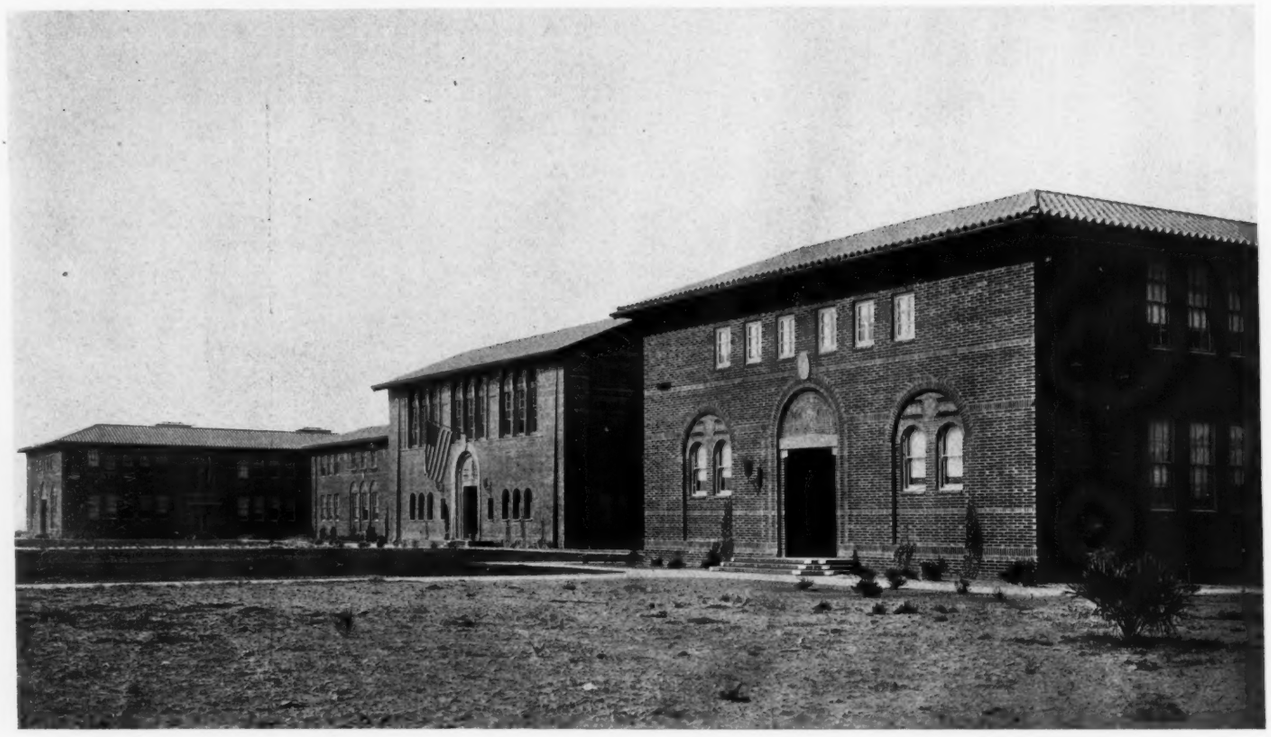

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Vol. XVI. No. 6

THE ARCHITECT

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IRVING F. MORROW
EDITOR

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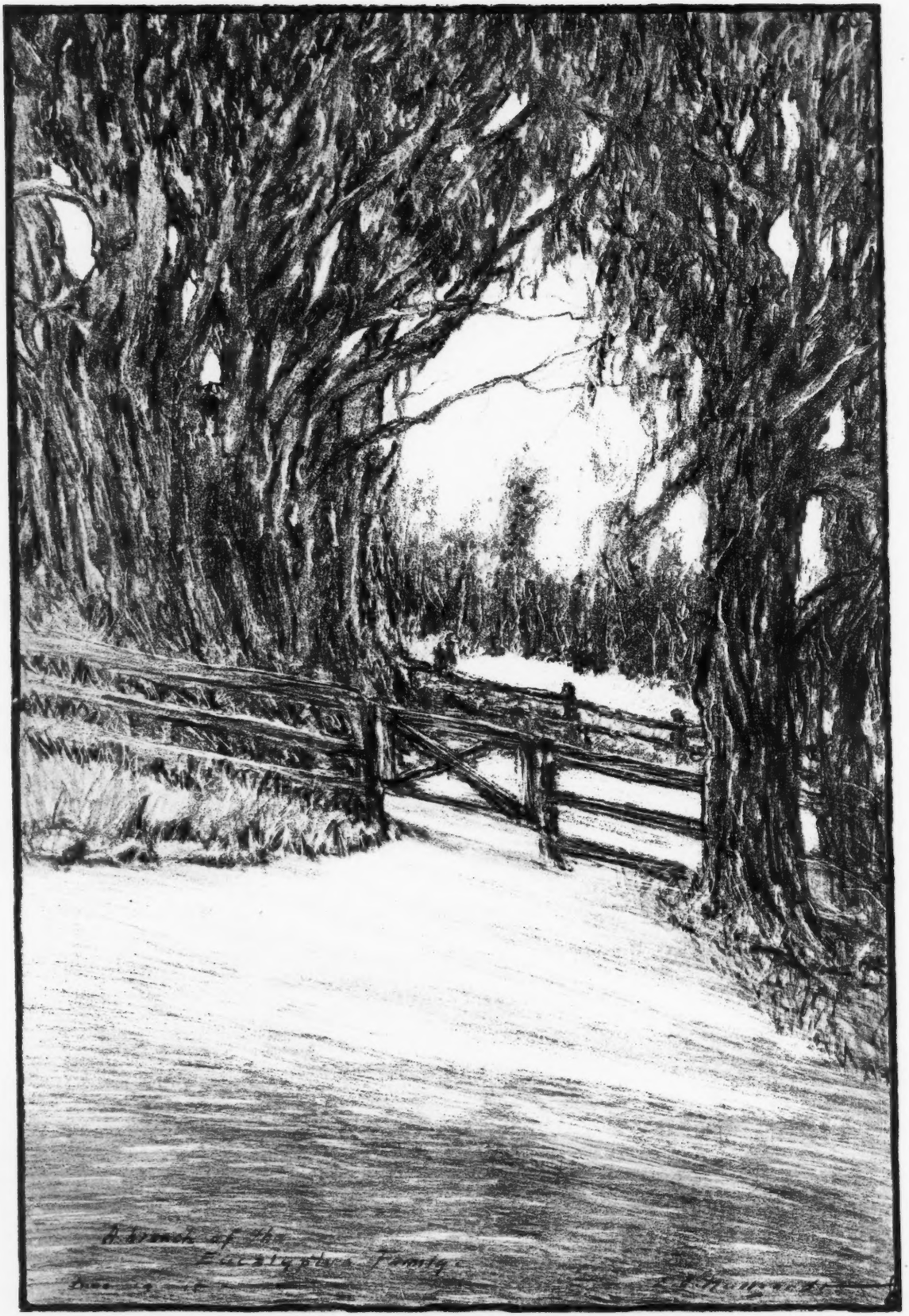


A BRANCH OF THE EUCALYPTUS FAMILY
SKETCH BY LOUIS CHRISTIAN MULLGARDT

THE ARCHITECT

VOL. XVI SAN FRANCISCO, DECEMBER, 1918 NO. 6

The Monastery of the Visitation of the Blessed Virgin Mary - An Appreciation

By IRVING F. MORROW

THAT peace of God which passeth all understanding is a dispensation of the Spirit, and beyond the measure of human powers; yet if its attainment may be served through the less profound peace of this world, surely must Mount Saint Margaret Mary become a perfect retreat for monastic contemplation. Tranquility and content pervade an encircling scene of land and water which is uninterrupted to the blue horizon. Restraint and repose temper each form which builds into the pile crowning its light-and air-bathed summit. Nature and man in harmony have conspired to bestow upon those who dwell there the joy of untroubled calm.

Midway up the range of hills which forms the eastern rim of the broad country of San Francisco Bay, it tops its own ridge, somewhat detached from the main line. Westward the slope drops rapidly over open hillsides and through tree-clustered canyons upon the communities which spread along the bay shore. The undulating foothills directly below are pleasant with the scattered villas and gardens of upper Piedmont, and the turnings of sinuous roads. The level lands of Oakland and Berkeley beyond seem spread with a dim and faded tapestry, an interminable field of houses lined with the delicate tracing of many streets. Outstreached pier arms breaking the long shore curves hint of the distractions of traffic and industry. Yet here there comes no sound save the call of the quail or the meadow-lark, and even the smoke which arises from factory chimneys dissolves and drifts into the imperceptible haze dimming the far southern hills. This same landlocked sheet of water was the inspiration of Edward Rowland Sill's verses.

> Before me, on the wide, warm bay
> A million azure ripples run.

On the further shore the long peninsula of the city of San Francisco and its more mountainous counterpart to the north all but touch save for the narrow passage which leads between the hills to the shimmering ocean. Distance is possessed of magic powers which integrate the most disparate elements into a symbol of perfect peace. Morning reveals this scene joyful with the radiance of dew. It is caressed by breezes from the blue bay throughout the long golden afternoon. But perhaps it is loveliest at the cool end of day, when for a few breathless moments faint afterglows transfigure the gray line of hills, and the slow passing of evening into night evokes the stillness of innumerable lights which twinkle around the harbor shores and along the avenues leading from point to point. Across and far up and down the bay fainter lights reveal communities unsuspected in the daytime haze. A vast map is traced upon the night with stars.

If the view behind, to the east, is more restricted, it is compensated by greater intimacy and seclusion. A gentle valley below, and beyond, the main ridge patterned with satin fields and velvet growth rising up to a long, slow, tree-clad line against the sky, make a scene as tranquil and comforting as the hills can offer.

To design a building which looks out over such a prospect, a building which takes its place as a conspicuous element of such a landscape, is a task to inspire an architect to high achievements. It is also a problem which involves a special obligation. Like so many of the opportunities of life, it carries a responsibility as heavy as its possibilities are rich. This Californian country is not only possessed of rare and subtile beauties, it is unique. Those who alter its face are in duty bound to respect its inherent qualities, to work with the fullest sympathy and the completest understanding. The gradual reaching out of the communities' activities into the surrounding country is to be welcomed as the index of a fuller and richer life. Implying the recognition and the humanization of nature, it is thus the fulfillment of man's specific role, which is to assert in all his contacts his peculiar humanity, or the qualities and impulses which differentiate him as a consciously aspiring force from the blind workings of the rest of nature. Yet to be fruitful the trend of man's efforts must be toward the intelligent development rather than in the line of an unintelligent neglect or thwarting of the underlying principles of nature. It is because the races which have made the significant contributions to our civilization have consciously or intuitively realized this that the old world is replete with shrines which are objects of the never-failing devotion of subsequent generations. Our own civilization, from the point of view of time, may be said to be only beginning. It begins, however, under unprecedented auspices—the combination of a new country with all that is implied thereby in the way of pioneer effort and the creation of a background, together with a substructure or foundation of civilization ready made and highly developed. Therefore, when a hand is laid upon our waiting landscape, how pregnant an opportunity is presented to cherish and to enhance its precious character; yet how

facile and how irredeemable is its sacrifice to indifference or incompetence!

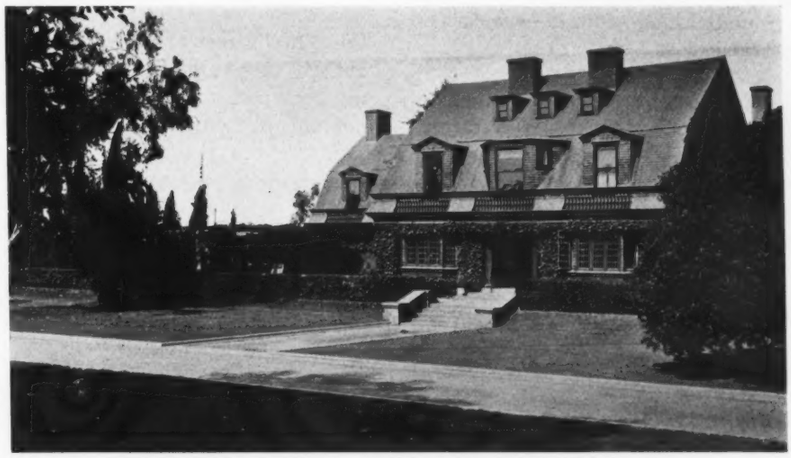
No less noteworthy than the natural beauty of Mount Saint Margaret Mary is the felicity with which its crowning structure enters into its spirit. Architectural composition involves a reciprocal interplay of great delicacy between building and landscape. Every site contains within itself implications which it is the duty of the building to recognize and carry out. The architecture can be neither a submission to, nor a domination over nature. The impulses which direct the building's form must derive from the site; yet in developing, the building must correct each defect of the site, make good its every inadequacy, and carry to completion all the possibilities latent therein. This is for the architect a fundamental obligation, particularly in the case of a building occupying an open and isolated position. An analogy which is suggestive, even if not rigorously parallel, is presented by the problem of thematic development in music. To those minds gifted with true musical insight a theme presents itself not as a static formula, finished once for all; it is replete with suggestions of numerous and varied possibilities. The presentation of these more remote implications of the themes used is an essential element in musical composition of the highest order. These developments and variations are all suggested by and derived from the fundamental theme; yet in their turn they reflect back upon that theme and illuminate it with a light which reveals latent possibilities therein and charges it with unsuspected significance. So must an architectural monument be at one and the same time the derivative and the complement of its site. Neither is complete, fully explicable, nor fully realized without the other. This, of course, is considering the problem in its largest aspect; but if this is neglected, the most conscientious attention to the design of the building itself can lead to no more than a consummate incongruity. Only this broadest and most general problem is really worthy of the name of "composition," and in proportion to the degree of its achievement is that harmony attained which is called inevitability.

RESIDENCE OF GEORGE H. BIXBY, RANCHO "LOS CERRITOS"
VIEW OF GARDEN TERRACE
COXHEAD & COXHEAD, Architects

At the present time, with architect's preliminary drawings as the sole available testimony, one who is personally unacquainted with the site of Mount Saint Margaret Mary may be pardoned for skepticism as to the attainment of this sense of inevitability. Architectural drawings are notoriously open to suspicion on the score of veracity; and architects, being themselves privy to the tricks of the trade, are prone to be unduly sensitive to possible deception in the drawings of others. It is regrettable that this should be so. The clever draftsman to whom architecture is but a medium for the display of manual dexterity, the feeble designer who prepares perspectives in the hope of deluding himself as well as others in regard to the nature of his building and its surroundings, are fit subjects for contempt. Were the inconsequence of their own productions the only question at issue they might be ignored; but they serve to bring into disrepute with both profession and public the work of draftsmen of sincerity and genuine ability. For this reason it becomes important to emphasize the essential fidelity of these drawings. When it is realized that the lifting aloft of this crescent ridgetop, the breadth, simplicity, and mellow content of the landscape, are not "entourage" improvised for the sake of a pleasant picture, but the very soil out of which the structure has sprung, no argument will be necessary to enforce its harmony with is destination. In these drawings a masterly talent for draftsmanship is forced into the service of an idea—the expression of the composition in its entirety. They resemble more a painter's rendition of a landscape composition of which the finished building happens to be an element than an architect's preliminary presentation of something which possesses reality only in his own mind. Nor are the perspective drawings alone in rendering this

interpretative service. To those conversant with the language of lines the plans are replete with suggestion and explanation. They imply an ensemble which has developed through the sympathetic accretions of years, rather than a project still in prospect. They possess, as one might say, the quality or attribute of having been lived.

The composition is lucid, its intent unmistakable. A narrow line of arcaded monastery follows the natural crescent of the hill's contours; at the end where the spur climbs toward the higher line of the main ridge it surges up into a massive towered church; at the end where the hill falls away it is secured by a small oratory chapel. Adequately simple in principle to meet the exactions of unity, in effect it is so disposed and articulated as to offer unlimited incidental variety. Subtilest of all expedients safeguarding against monotony is a sensitive handling of planes. Around the monastery building arch succeeds arch in what, on a count alone, might seem an interminable procession. Actually different lengths of this arcade are turned at a variety of angles. This means in the first place that regardless of the sun's position each section receives a different lighting, which is no small asset in itself. But more than that, the foreshortening of perspective is continually introducing variation into the apparent forms of identical elements. Unity and variety are thus served at one stroke. But effects of line as well as of plane are incidental to this irregularity of plan. Every turn means that the convergence of perspective is attributing varied angles to lines actually horizontal. For example, what appears in plan as a convex angle of the infirmary wing behind the church becomes in effect a shoulder which braces the huge weight of the church and lets it down easily and cautiously into the long low structure. A more obvious but no less effective method of diversifying the simple scheme is the introduction into it of incidental features. All of the principal angles of the composition flow easily one into the other, save at the exterior right angle of the extreme north corner. At this point the out-sisters' wing, leaving the main structure and dropping down hill from the level contour, gives firmness and decision to an abrupt turning. But most of these incidental elements are of more modest dimensions. Stair towers add their share of accidental touches; not only do their lines and planes relieve uniformity, but their openings will refuse to allign with established window heights. Most delightful of all variants from a strict regularity are the several small oratories distributed about the building. Their charm is not confined to the exterior; within, amid the austerity of long corridors and rows of cells, they are set like jewels, simple, but of great price. Of all of these minor features it will be noted that whatever their value as points of diversion, they invariably maintain their positions as incidents, and avoid confusing the larger aspects of the composition. Last though in no sense least among the means of attaining variety are the gardens which slope gently away from the building on all sides. The accidents of foliage falling into a composition are among its chief assets of picturesquenss. A discreet balance is maintained between intimacy and formality of planting.



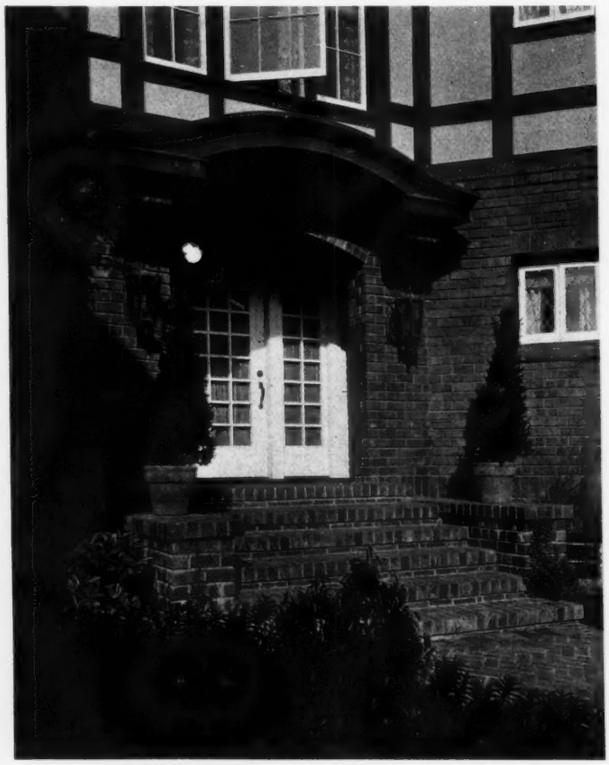
RESIDENCE OF GEORGE H. BIXBY, RANCHO "LOS CERRITOS"
NEAR LONG BEACH SOUTHERN CALIFORNIA
COXHEAD & COXHEAD, Architects, San Francisco

RESIDENCE OF GEORGE H. BIXBY, RANCHO "LOS CERRITOS"
VIEW OF GARDEN TERRACE
COXHEAD & COXHEAD, Architects

As the dominating element of the composition the church demands a moment of attention. On a casual glance its plan might seem to indicate the traditional

cruciform church. Examination shows that while the church is indeed in a cruciform structure, it is not properly speaking a cruciform church; it is a nave paralleled through a part of its length by aisles. The transepts, in fact, are not church transepts at all, but two-storied accessory structures, visible on the interior, as far as they are so visible, only through screens or grilles. The same is largely true of the apse. The result in exterior expression is unusual. Likewise of interest is the manner in which the corners of the massive central tower, instead of disappearing in the masonry of the crossing points, spread to the ground through four square corner pavillions which occupy the angles between the nave and the transept structures.

Possibly the most elusive element in architecture is scale, having to do with the apparent size of a composition, with the relative sizes of its elements, and with the relations of size which the whole as well as each of its parts bears to all with which it may naturally come into contact. Coarseness and crudity are to be avoided at close range, flatness and weakness from afar. The smaller the range of distances from which a building can be viewed, the less acutely is this problem felt, for a relation once established is not subject to alteration; the more free the use of ornament, the less difficult is its management, for detail may be scaled to give delicacy close at hand and to disappear in mere texture from a distance. A building of the nature and position of this one is calculated to aggravate the difficulties attendant upon the handling of scale. It is to be an abode cherished of all who dwell within its confines, yet it is to stand forth as an an authoritative symbol of the things of the spirit to those who from below lift up their eyes unto the hills; and, by the terms of its being, simplicity, even austerity, seem to be required. There is possible no evasion of the problem, which must be directly met by the manipulation of sizes, reliefs, positions, etc., of elements almost unadorned. The great danger here was that the arcades might become unsympathetic to the passer-by, or insignificant in the general view; that the church and tower might become brutal as seen from the gardens, or flimsy as seen from beyond the monastery confines. How successful a course has actually been maintained between such extremes can be appreciated only by close study of the drawings themselves.



DOORWAY FOR RESIDENCE OF MRS. F. L. NELSON, OAKLAND
CHESTER H. MILLER, Architect

Those who have contemplated old-world places and things of renown and reflected upon the reasons for the recognition which is theirs must have been impressed that our country of the the new world is deficient only in so far as it fails to testify to long and intimate human association. After all, the most interesting thing in the world to man is man. Even when the seclusion and solitude of nature are sought it is but to gain a moment's pause for the revision of human values. The scenes which acquire particular places in our affections are those which successive generations of men have enriched with their intelligence and love. In our own land of California almost the only objects to inspire veneration of a worthy past are the naive and earnest Mission buildings bequeathed by the Franciscan fathers of a century and more ago. These rudely but sincerely constructed piles stood as places of refuge at day's stages along the desolate and unpeopled highway. Though their function may have lapsed it can not be said that their usefulness is past. In the days of transition from the simple times of the padres to a richer and more varied civilization it might have seemed to them that all the ideals for which they had striven and suffered were lost. Yet now on Mount Saint Margaret Mary we witness, as it were, the continuation of their tradition of sweetness and light. But how different is the manifestation of the altered conditions of a new age! Today, avoiding the thronged highway, a solitude is sought high upon the hills overlooking widespreading communities. The rude materials and technique of primitive days cede to the inexhaustible resources of science and art. The sad sincerity of an humble art, building better than it knew, is succeeded by the poise and assurance which attend understanding and the enthusiasm born of a consciousness of working in the full flood of the world's activity. The padres of old, as we today, looked out upon that line of hills, bluer than water or sky, which follows down the east bay shore. Could they behold it now, what wonderment must be theirs to discern the endless mantle of industry and habitation spread along its base; yet what satisfaction, what thanksgiving withal, to recognize poised high above material considerations the soaring church and chapel terminating the long line of the Monastery of the Visitation of the Blessed Virgin Mary!

The Monastery of the Visitation of The Blessed Virgin Mary—A Description

By LOUIS CHRISTIAN MULLGARDT

MOUNT Saint Margaret Mary lies in the hills behind Piedmont, on the east shore of San Francisco Bay. The principal roadways thither and to the Monastery of the Visitation of the Blessed Virgin Mary crowning its summit lead from the lowlands of Oakland and Berkeley, merging into Hampton Road, which ribbons its way over rising ground to an elevation of seven hundred feet above the Bay of San Francisco, where it half encircles the Mount itself. Monastery Lane branches off Hampton Road into the public court and parking space adjoining the Chapel, as shown on the plan of landscape. This public court leads to the North Entrance of the Chapel and to the walled Chapel Gardens on the westerly promontory which forms the immediate foreground of the west facade of the Chapel. It also leads to the Priests' Study and Sacristy, and to the outer court yard, where visitors to the Monastery will be welcomed, and where essentials will be received by the Out-Sisters.

The enclosure walls surrounding the Monastery trace the irregular perimeter of the acreage. The walls' picturesque irregularity adheres to a single gradient contour; they are on a horizontal plane, but appear to rise and fall in perfect accordance with the varying slopes and irregular sides of the Mount. Tangential walls separate the estate into Courts, Yards, Gardens, Orchard and Cemetery. They are variously curved to the natural gradients of the hillside and concordant with the perimeter walls.

The architectural composition, when viewed from the southwest toward its principal exterior, is crescentiform. It follows the ridge of Mount Saint Margaret Mary and constitutes a corona which varies in magnitude with every change in angle of observation. All facades are visible from distant surroundings. Privacy, so essential to monastic life, is wholly preserved by singular isolation and natural environment. The setting is naturally exclusive, and free from apparent intent to make it so. The buildings are located twenty feet above the enclosure walls, which obscure the edifice from view at close range.

Glorious views of great magnitude are obtainable in every direction from within the estate, consisting of mountain ranges of gentlest curves clothed with velvety fields of summer brown or winter green. Great swerving patches of dense pine and eucalyptus forests extend beyond the horizon. Within this landscape the opalescent Bay of San Francisco lies, its channel to the Pacific

BARN FOR PROF. SENGER, BERKELEY, CAL.
MAYBECK & WHITE, Architects

through the Golden Gate being distinctly visible. The densely populated lowlands of Oakland and Berkeley follow the irregular eastern shore line of the bay, like a soft purplish stretch of mosaic. Westward across the bay the city of San Francisco is faintly visible. At night myriad lights glitter radiantly, like reflected starlit skies. Every aspect abounds with inspiration. The fog frequently enshrouds the entire landscape, and the top of Mount Saint Margaret Mary is seemingly transported into the skies. The Mount is blessed with an atmosphere of invariable tranquility. Everything which the senses can detect exhales the gentle spirit of peace. Its aerial height creates a point of vantage from which some of the greatest natural phenomea are visible.

The plan of landscape shows where the Public Roadway approach enters the Public Court and Parking Space, which slopes gently to the north. It will be suitably paved for use of conveyances and pedestrians and bordered with evergreen growth and slender trees. Creeping vines will cover its surrounding walls.

The Outside Court Yard provides indirect communication with the Monastery for visitors and for delivery of essentials. A large store room is located on the ground floor of the Out-Sisters' Building, for supplies in quantity.

The Poultry Yard to the east of the Out-Sisters Building will also serve as a Drying Yard for the Laundry on the ground floor of this wing.

The Vegetable and Fruit Gardens will be screened from view by a Box-Hedge surrounding the Terrace. The Hedged Terrace is accessible from the principal rooms on the first floor by means of broad steps.

The Cemetery occupies the entire southeast end of the property beyond the termination of the main wing of the Monastery. A large Crucifix constitutes the focal point of this promontory.

The Private Gardens are to the southwest of the Monastery, separated from the Chapel Gardens, which occupy the entire westerly promontory.

All Gardens slope gently away from the building and are thereby easily drained. The paths tend to follow the contour lines, affording easy traverse. They terminate at focal points of interest against enclosure walls and buildings. The central oval Plaza, contains a Monumental Fountain and Statue of Saint Francis de Sales; also an exedra half encircling it.

The Little Garden north of the Monastery is intended largely for the use of convalescents, whose hospital quarters are in the adjoining Infirmary. This Garden is made accessible from the north wing by garden steps and turret staircase. It is well protected against prevailing west winds by Chapel and Monastery walls, and will receive sunlight and shadow during the full length of day.

The east side of the Out-sisters' Building is devoted largely to visitors quarters; the west side to a large larder which is under control of the Out-Sisters, whose quarters are on the second floor of this wing. The Monastery is accessible only through the entrance of the Out-Sisters department.

The Culinary Department is adjacent to the Larder, separated by the North Corridor. The Refectory, Assembly Room, Library and all of the Official Departments and Work Rooms are arranged in their relative order through the length of the first floor of the Monastery. All departments derive direct daylight and ventilation from two sides, facing northeast and southwest, which insures a maximum of sunlight and fresh air.

The Arcaded Cloister flanks the full length of the southwesterly side of the Monastery and connects all departments. It terminates against the apse of the Chapel at the extreme left, and against the Oratory within the Cemetery at the extreme right. The arches of the cloister correspond in number to the beads of the Rosary. The Chapel is similarly emblematic, as a Crucifix pendant thereto.

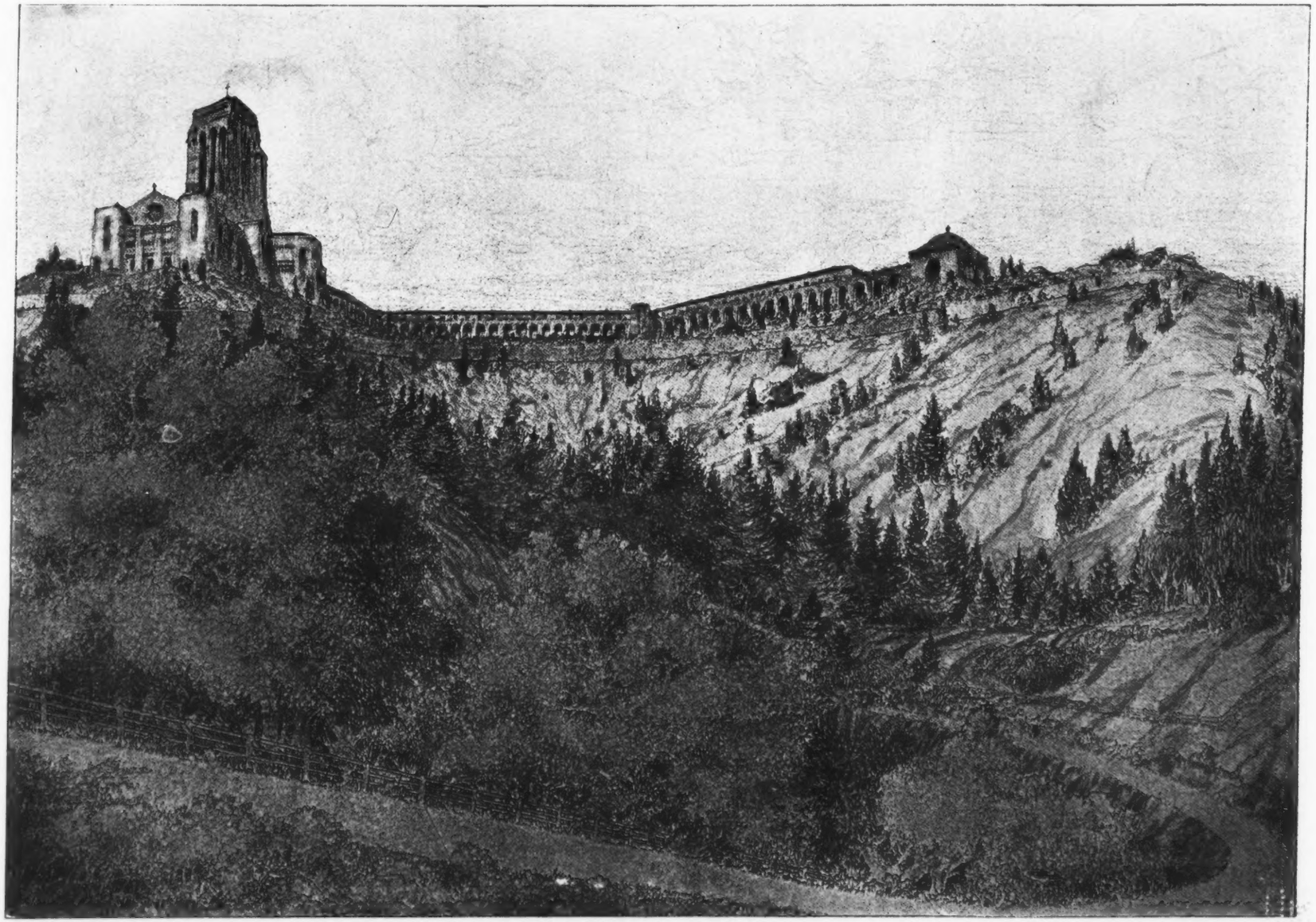
The second floor of the Monastery is made accessible from the Cloisters by four main staircases situated at convenient points. The second floor is devoted largely to individual Cells, to which a continuous Veranda is made accessible.

The Lady Chapel or Tribune is situated in the outer apse of the Chapel, convenient to convalescents from the Infirmary. The Chapel Service is heard in the Tribune through a grating behind the Altar.

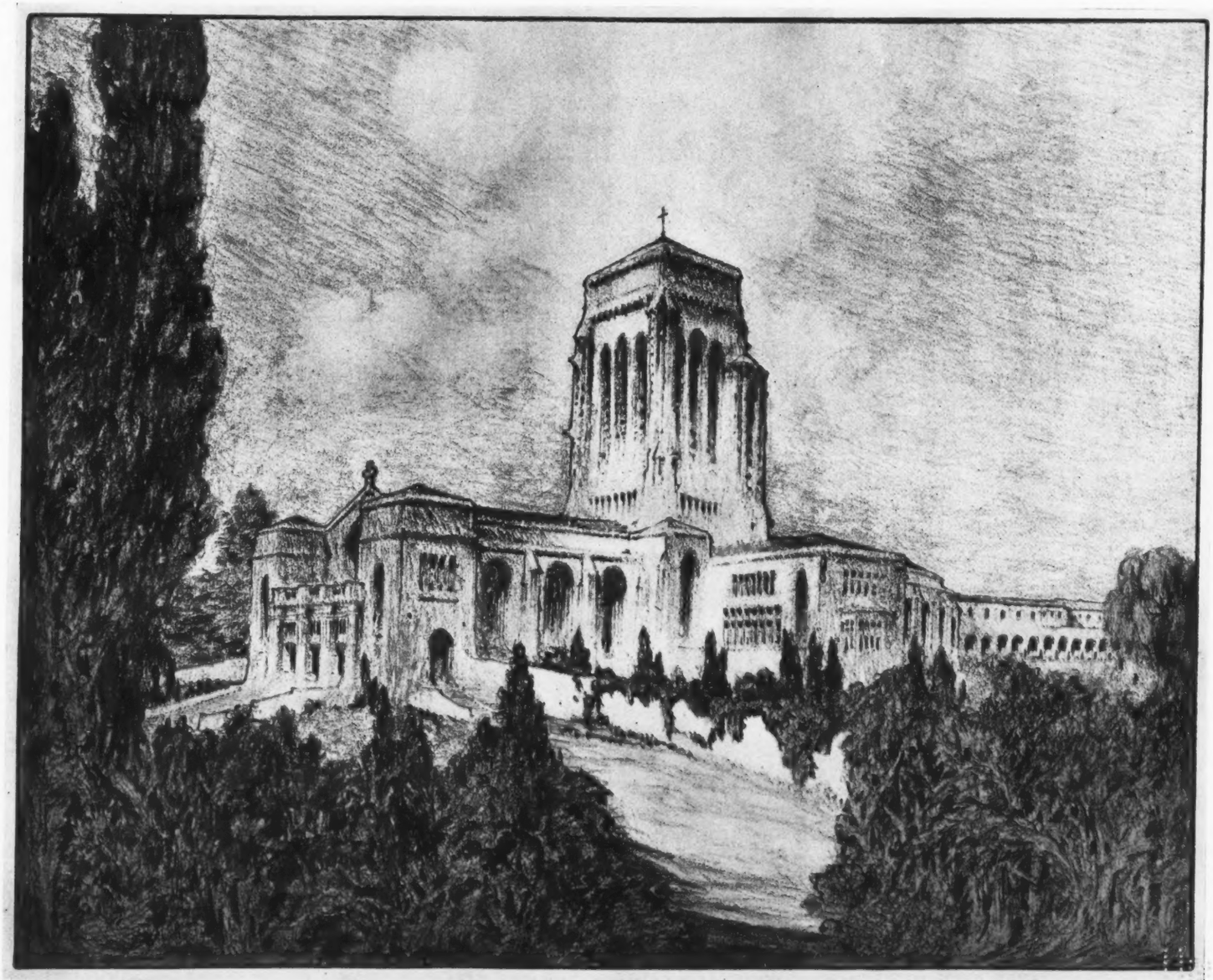
The west porch of the Chapel is accessible to the public through a side entrance from the Parking Space, and from the main entrance in the Chapel Gardens. The Priests' Room and Little Chapel are located to the left and right of the Nave, adjoining the north and south Transepts. The north transept contains the Priests' Sacristy and Confessional. A private corridor leads from the Priests' Study to the Sanctuary. The organist and outside choir reach the Organ Loft by a private staircase. The Nuns' Choir and Ante-Choir Rooms are in the south Transept. The Chapter Room is above the Choir Room.

An electric elevator and a staircase in the south and north corridors of the Outer Apse extend from the first and second floors to a large chamber with high ceiling within the Chapel Tower. This chamber is made accessible to the Nuns only. It affords an exceptional view of the entire surroundings from an elevation of nearly one hundred feet above the crest of Mount Saint Margaret Mary.

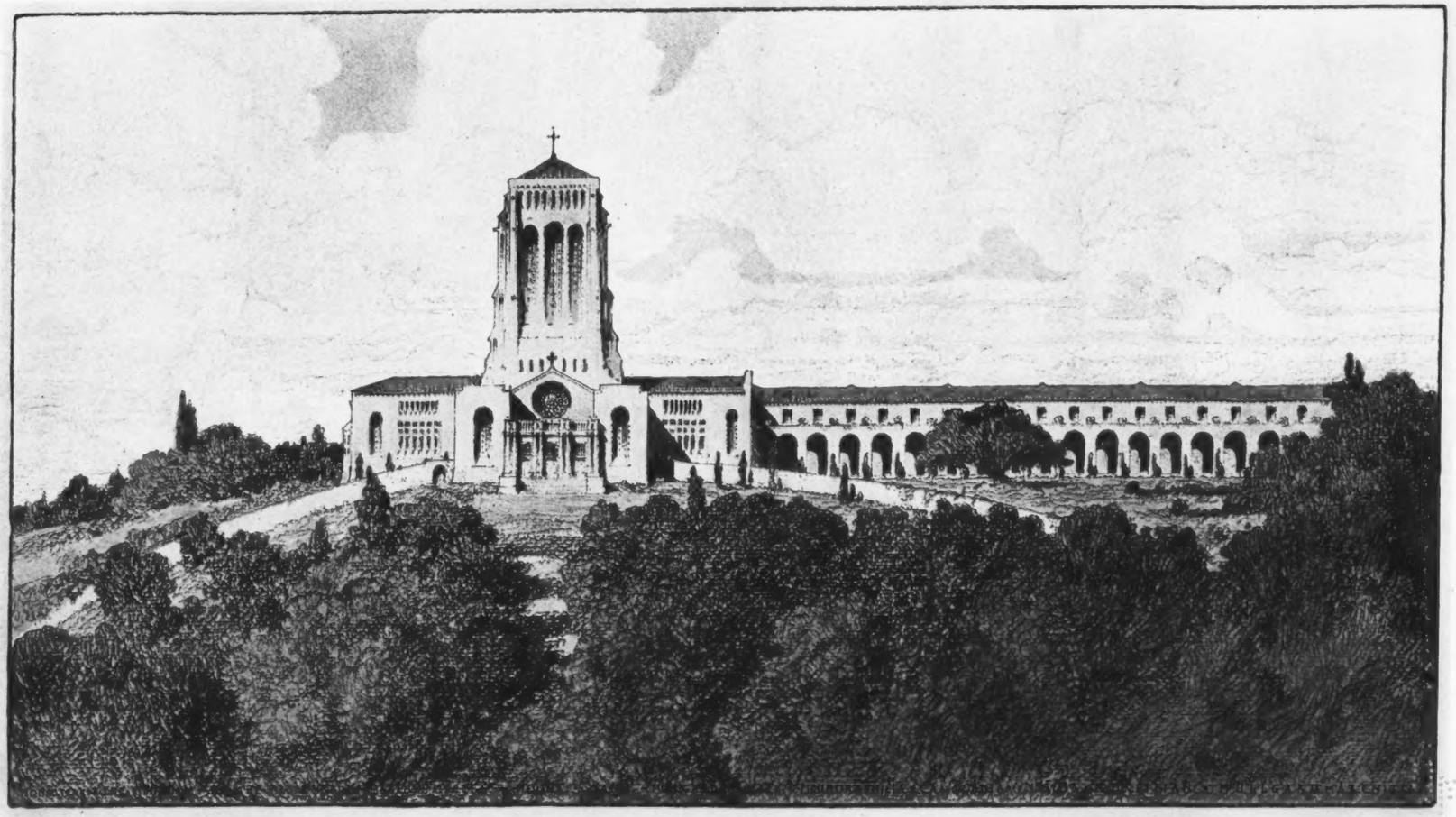
The construction of the edifice, relative to solidity, endurance and surety against fire, will be as consistently perfect as modern science can devise. The walls and floors will be monolithic. Cellular block tiles will be extensively used for linings and partitions. The interior surfaces will be largely plastic. The floors and bases will be non-perishable and water proof — tile, mosaic, marble and plastic materials. The interior cabinet work will be of select hardwood. The exterior walls will have a textural surface, and harmonize in color and shade with certain tonal qualities of the Mount. The roofs will be of Spanish Tile in variegated neutral red tones. The windows will have metal grills of appropriate design. The interior of the Chapel will be enriched with Cathedral glass windows and suitable mural decorations painted by Masters. The ceiling will be coffered. Extensive planting of Gardens, with flowers, shrubs, trees and creeping vines, including the placing of appropriate monuments and garden furniture, will provide an imposing setting for the ensemble, and will be one of its chief glories.



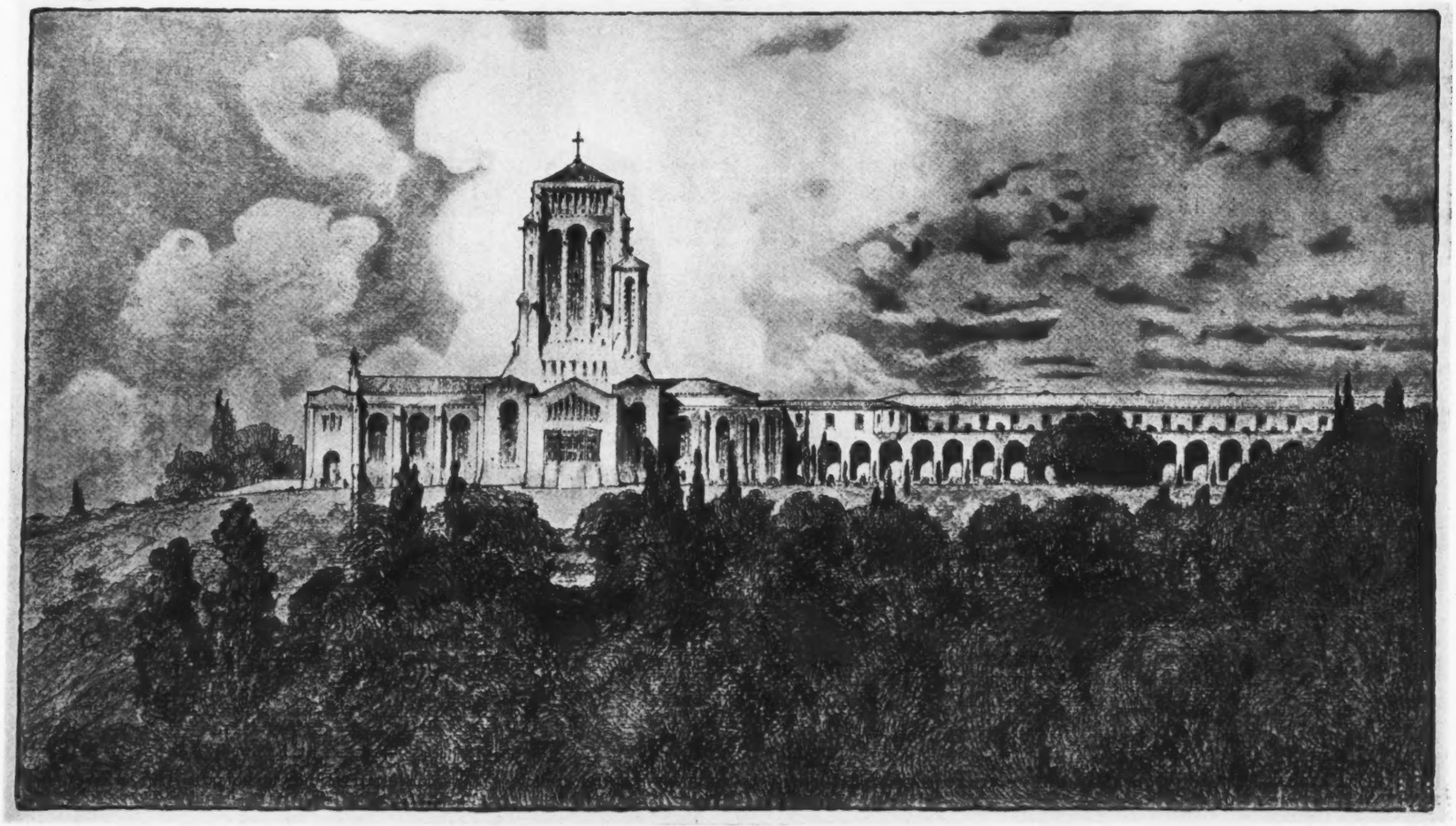
GENERAL VIEW FROM SOUTHWEST
MONASTERY OF THE VISITATION OF THE BLESSED VIRGIN MARY
MOUNT SAINT MARGARET MARY, PIEDMONT HILLS, CAL.
LOUIS CHRISTIAN MULLGARDT, Architect



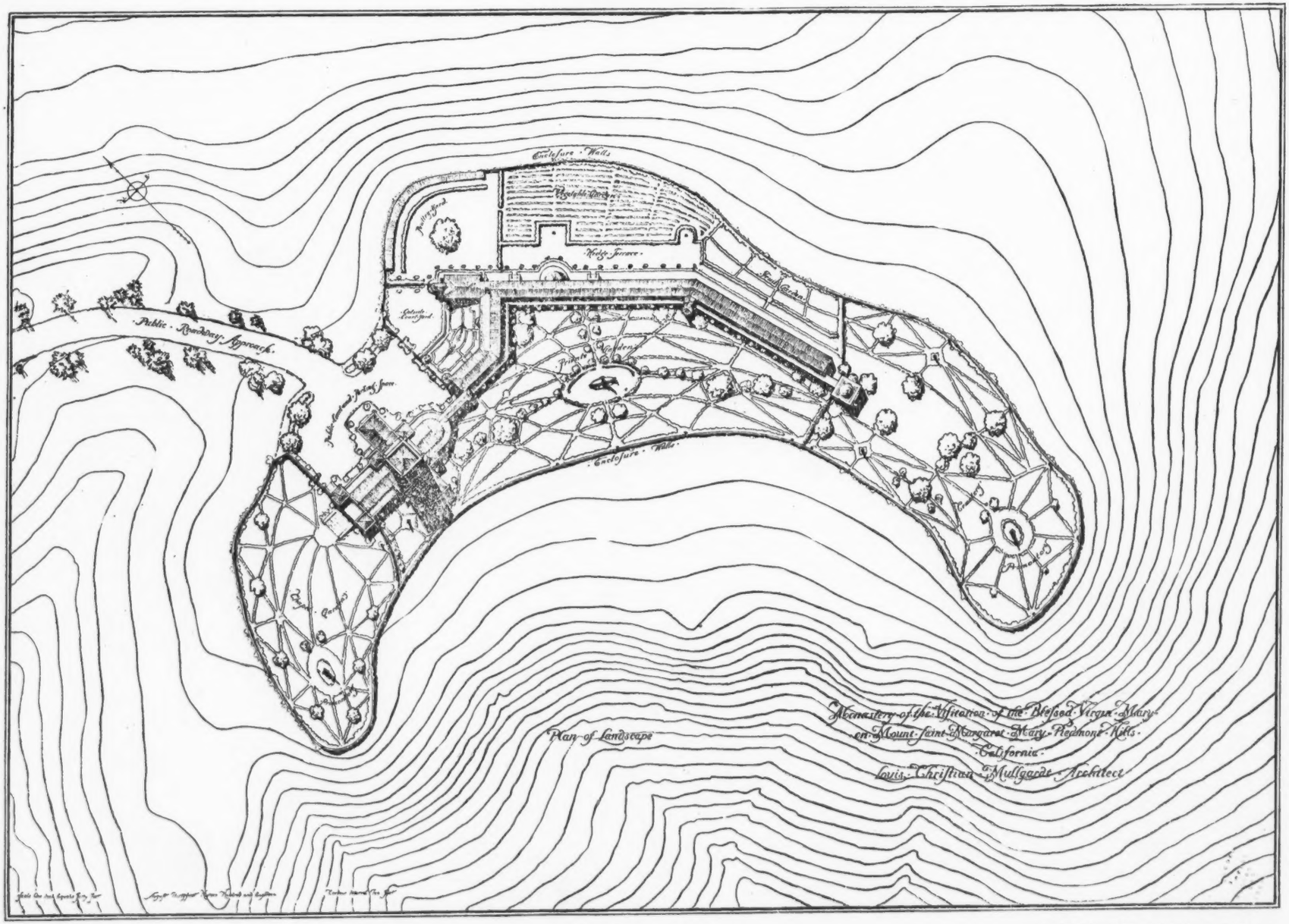
THE CHURCH FROM THE CHAPEL GARDENS
MONASTERY OF THE VISITATION OF THE BLESSED VIRGIN MARY
MOUNT SAINT MARGARET MARY, PIEDMONT HILLS, CAL.
LOUIS CHRISTIAN MULLGARDT, Architect



WEST ELEVATION
MONASTERY OF THE VISITATION OF THE BLESSED VIRGIN MARY
MOUNT SAINT MARGARET MARY, PIEDMONT HILLS, CAL.
LOUIS CHRISTIAN MULLGARDT, Architect



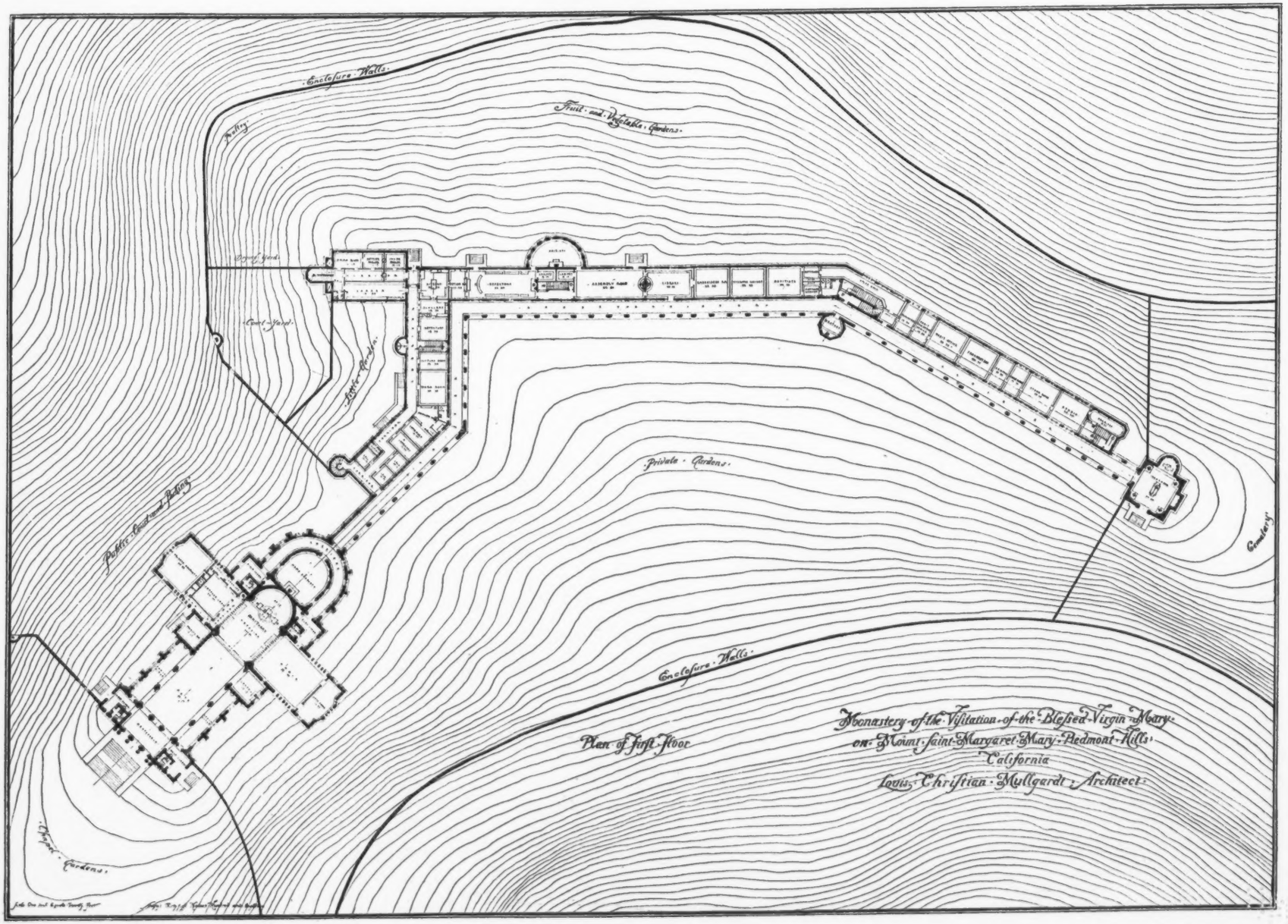
SOUTH ELEVATION
MONASTERY OF THE VISITATION OF THE BLESSED VIRGIN MARY
MOUNT SAINT MARGARET MARY, PIEDMONT HILLS, CAL.
LOUIS CHRISTIAN MULLGARDT, Architect


Enclosure · Walls
Public · Roadway · Approach.
Ridge Terrace
Enclosure · Walls
Plan of Landscape
Monastery of the Visitation of the Blessed Virgin Mary
on Mount Saint Margaret Mary Piedmont Hills
California
Louis Christian Mullgardt Architect

Plan Reproduced at Scale of 1 Inch, Equals 168 feet

PLAN OF LANDSCAPE
MONASTERY OF THE VISITATION OF THE BLESSED VIRGIN MARY
MOUNT SAINT MARGARET MARY, PIEDMONT HILLS, CAL.

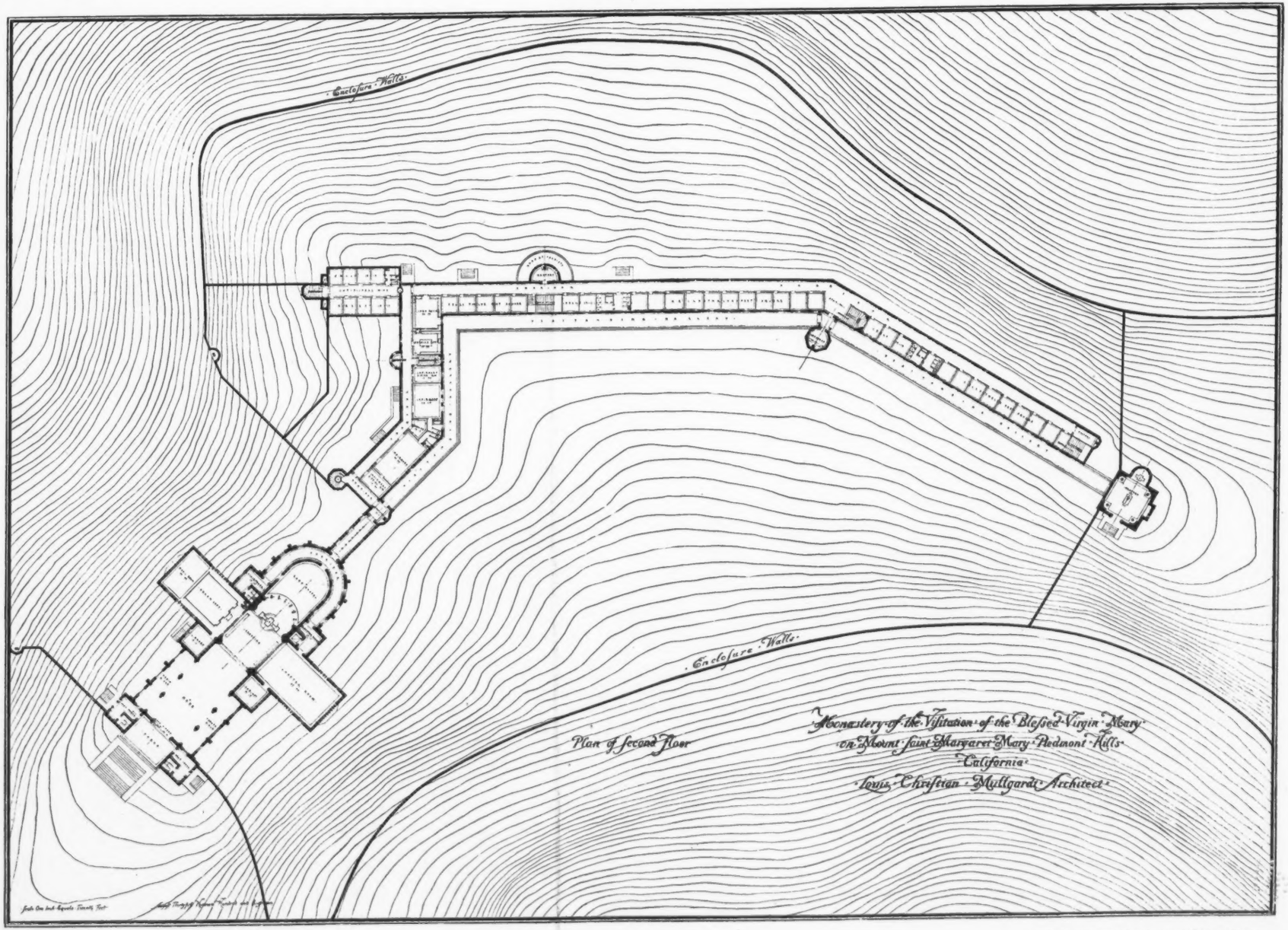
LOUIS CHRISTIAN MULLGARDT, Architect



Plan Reproduced at Scale of 1 Inch, Equals 84 Feet

PLAN OF FIRST FLOOR
MONASTERY OF THE VISITATION OF THE BLESSED VIRGIN MARY
MOUNT SAINT MARGARET MARY, PIEDMONT HILLS, CAL.

LOUIS CHRISTIAN MULLGARDT, Architect

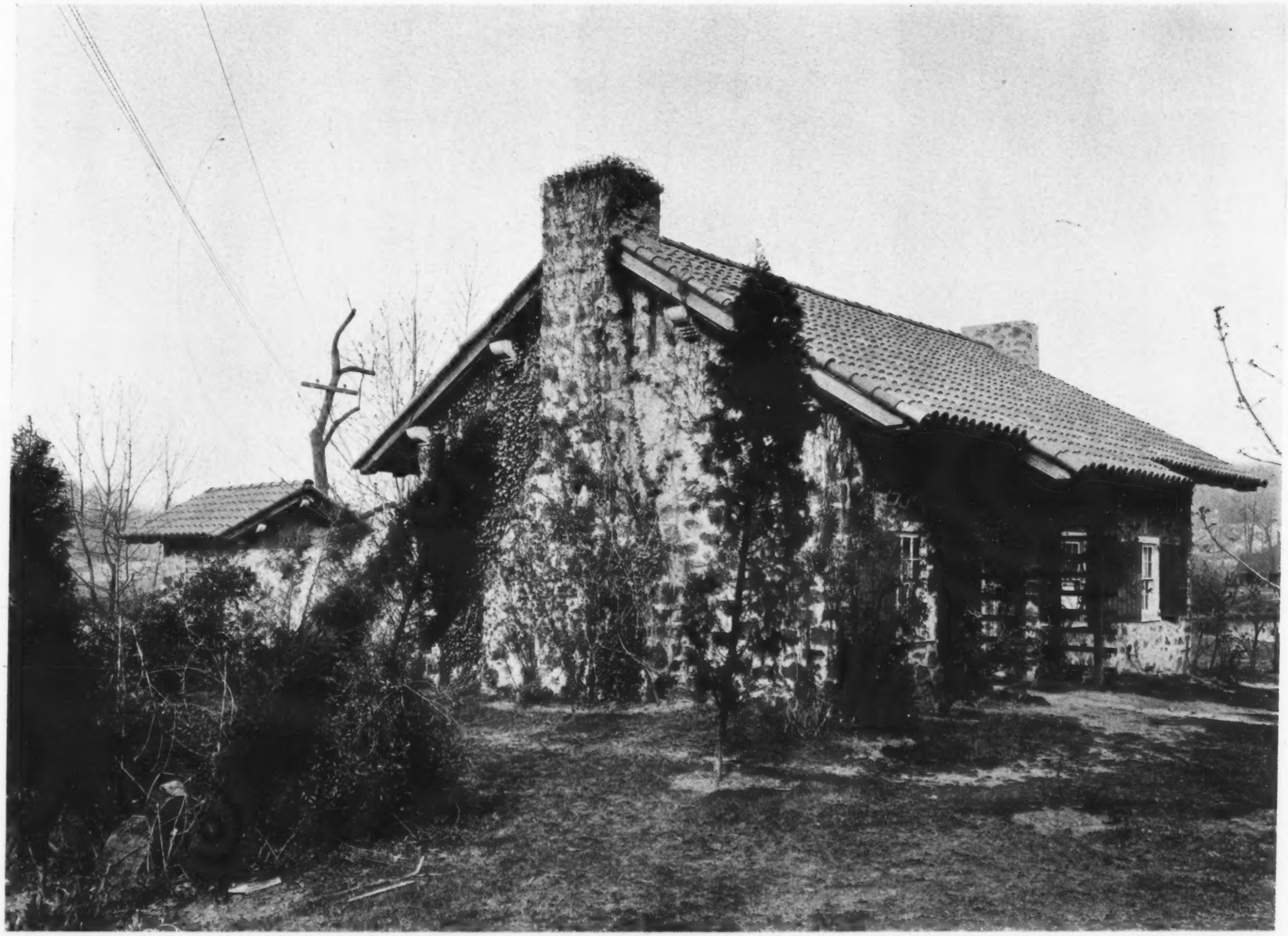

Enclosure Walls
Enclosure Walls
Plan of Second Floor
Monastery of the Visitation of the Blessed Virgin Mary
On Mount Saint Margaret Mary Piedmont Hills
California
Louis Christian Mullgardt Architect

Plan Reproduced at Scale of 1 Inch, Equals 84 Feet

PLAN OF SECOND FLOOR
MONASTERY OF THE VISITATION OF THE BLESSED VIRGIN MARY
MOUNT SAINT MARGARET MARY, PIEDMONT HILLS, CAL.

LOUIS CHRISTIAN MULLGARDT, Architect

LOG CABIN ON THE ESTATE OF CHAS. S. WALTON, ESQ.
ST. DAVIDS, PENNSYLVANIA
D. KNICKERBACKER BOYD, F. A. I. A., Architect



COACHMAN'S COTTAGE ON THE ESTATE OF CHAS. S. WALTON, ESQ., ST. DAVIDS, PENNSYLVANIA
D. KNICKERBACKER BOYD, F. A. I. A. Architect

The Plant of the Pacific Coast Shipbuilding Company and the Town of Clyde

GENERAL VIEW OF CLYDE UNDER CONSTRUCTION

THE plant of the Pacific Coast Shipbuilding Company is situated on the shores of Suisun Bay, an extension of San Francisco Bay, near the confluence of California's most important two streams, the Sacramento and the San Joaquin Rivers. It is thirty five miles in an air line north-east of San Francisco. The area, 233 acres, is one of the largest in the country, being ten times what would have been considered a large site in the pre-war days of shipbuilding. The yard was designed for seven ways, of which four were constructed at the beginning. The entire plant has been laid out on the same principle, leaving generous provision for future growth along a site whose water frontage covers 2800 feet and which allows ample depth and space for launching large ships. The site was originally in part a marsh. The building of the yard was not without interest from the architectural standpoint. The job was done in what was then record time. Construction was begun on January 6, 1918. Exactly six months to a day from the breaking of ground the fourth keel was laid, and actual ship building was proceeding in all four ways. As an indication of the speed with which the shipyard was built it is interesting to note that the 400 foot plate shop with the mold loft above it, was built all told in forty working days, the actual erection requiring eighteen days. Similar speed was made in the construction of the other buildings, and several of the smaller ones, varying from 100 to 150 feet long, and of proportionate width, were built in from six to fourteen working days. The architect of the plant was Fred H. Meyer of San Francisco.

The shipyard got under way speedily and the first vessel was launched November 30th, 1918, at which time the yard had 2500 employees. This ship was the Diablo, one of the ten 9400 ton deadweight cargo carriers covered by the Company's first contract, which was made with the United States Shipping Board. The launching of this ship was made a public holiday by the residents of Contra Costa County, not only because of the importance of the industry to the county but also because the ship was given its name from Central California's guardian peak, Mount Diablo, within sight of which the shipyard is situated. Five thousand men, women and children witnessed the launching, at which Contra Costa County was officially represented by Superior Judge R. H. Lati-

CONSTRUCTION WORK AT CLYDE

GENERAL VIEW OF CLYDE UNDER CONSTRUCTION

mer. Justice Henry A. Melvin of the State Supreme Court was also a speaker. Ceremonies were presided over by R. N. Burgess, president of the Shipbuilding Company; Mrs. Burgess was the sponsor. After the ceremonies, on behalf of the county's citizens she sent a telegram to Mrs. Woodrow Wilson, who had given special sanction to christen the vessel Diablo.

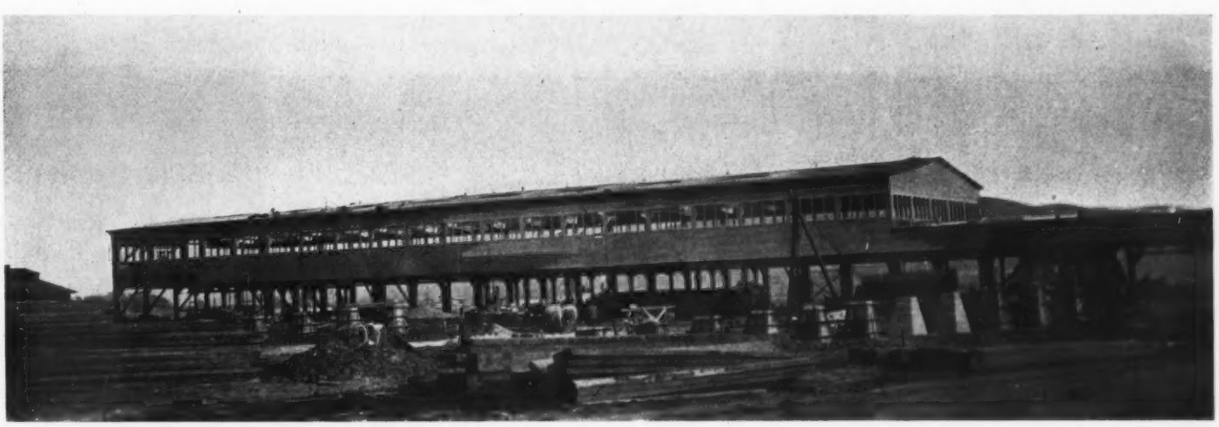
Many difficulties were met and overcome in the period in which the yard was being brought to the stage where the first launching was possible. One of the difficulties was the housing problem. Contra Costa County is one of California's most industrial districts, many large plants being situated within a few miles of the shipyard. When the yard began to increase its working force, which is expected eventually to reach at least 4000 men, and probably more, housing accomodations in adjacent towns were found inadequate. Many of the employees took up their homes in the larger cities on San Francisco bay and a special train service over the Southern Pacific railroad was in operation to and from the yard.

The project of building a town especially for these ship workers was taken up, with the result that the town of Clyde is being constructed by the Clyde Company with the assistance of the United States Shipping Board. The work is now well advanced, and the predictions of a noteworthy industrial home town are being fulfilled.

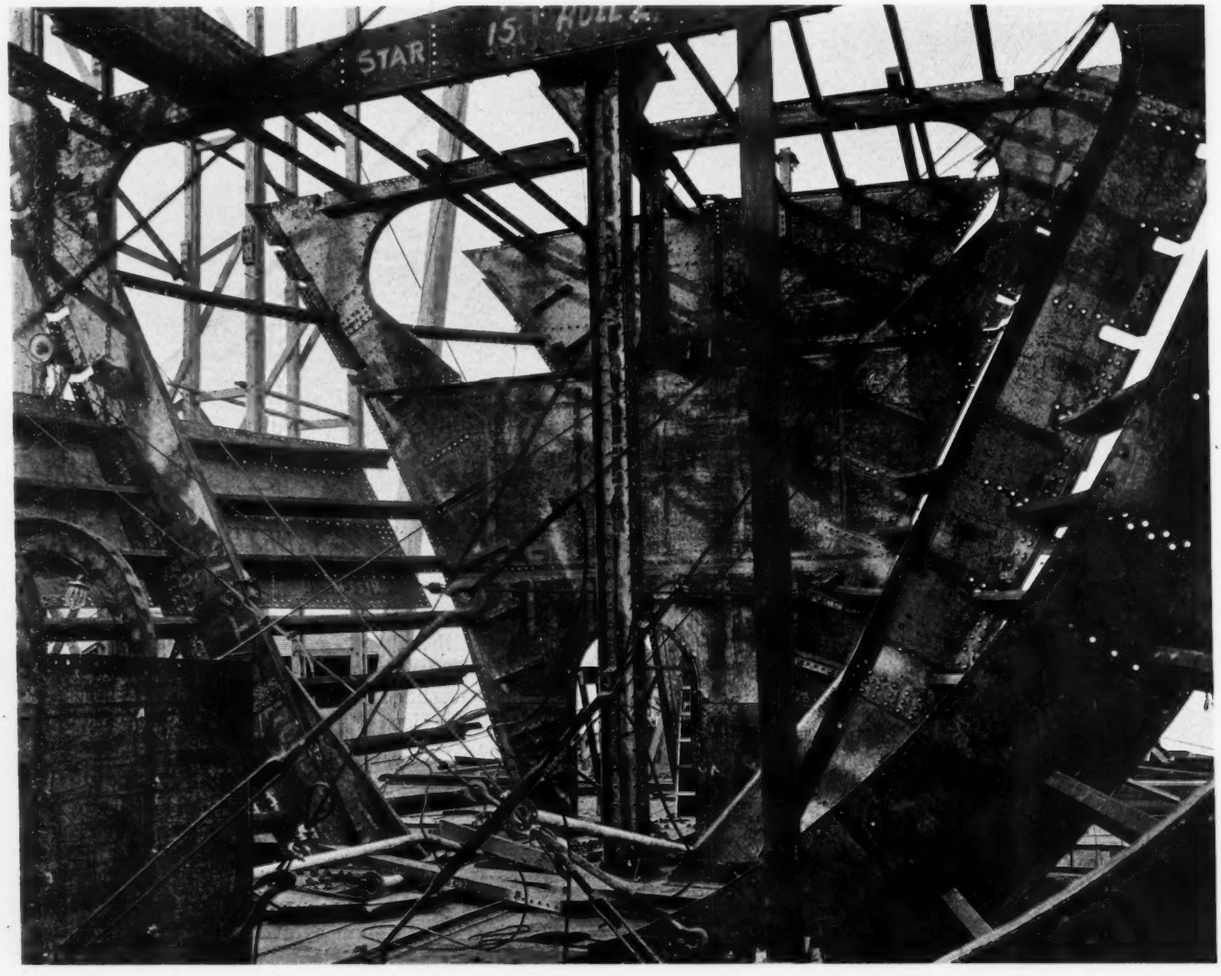
The site of Clyde, embracing 186 acres, lies less than three miles from the shipyard, on level and rolling land flanked on the north, in the direction of the bay, by the county concrete highway and the main line of the Oakland, Antioch and Eastern Railroad, an electric system running from San Francisco to Sacramento. The Bay Point and Clayton line also passes the property and near by are the main lines of the Southern Pacific and Santa Fe Railroads. One of the features of the project is special electric train service from the main entrance of the town to the shipyard gates. The California State Railroad Commission recently gave its approval to plans for a steel overhead crossing above the steam lines for this electric service.

With the co-operation of the Shipping Board the town of Clyde is to be reserved for the employees of the Pacific Coast Shipbuilding Company, it being stipulated that no one else may buy a home or lot until at least six months after the conclusion of the war. The town has been designed, therefore, with the special requirements of these ship workers in view. It has been laid out and is being built with the maximum of attractiveness of both individual houses and ensemble in view. In all such matters as street work, sewers, lighting and the supplying of utility services, as well as in the plumbing, wiring and finishing of the houses, a high quality of material and service has been used. The work is being done to comply with stipulations similar to the building regulations of cities of a population of 200,000.

A parking system is a part of the plan, in which the



THE PLATE SHOP, YARD OF THE PACIFIC COAST SHIPBUILDING COMPANY



RIBS OF A 9400 TON CARGO BOAT, YARD OF THE PACIFIC COAST SHIPBUILDING COMPANY

embellishment of individual gardens has also been taken into consideration. The streets have been so laid out that between each two and paralleling them there will be a strip of planting sixty feet in width, giving ample room for beautification and in effect lending to each house the advantages of abutting on a park.

With a determination to make the town complete from all standpoints, provision has been made for shops, garages, etc, which will form a nucleus near the civic center and Trafalgar Boulevard, the thoroughfare which is the main entrance to the town. Another shopping street has also been provided for at the further or eastern end of the town.

The residents' social center will be represented in the beginning at least by the $150,000 hotel, work on which was started in the latter part of 1918. The hotel, containing approximately 110 rooms, will comply with the general requirements for solidity of construction, and the maximum of comfort and convenience for the occupants has been carefully kept in mind in all details. The dining room and lobby are to be housed in what may be described as a separate pavilion, adaptable to moving picture shows, dances and entertainments and similar events.

The homes, of which there were 94 under way at the time of the shipyard's first launching, are in general of five, four and three rooms, built in such number to average perhaps four rooms each. A few larger houses will be erected. All are to be of wood construction, with brick foundations, plastered inside, and with exterior of plaster, shingles or resaw, singly or in combinations. Most of the houses will have fire places and all will be wired for electricty.

The character of California's climate, the topography of the region about Clyde and other local characteristics have been taken into consideration in designing the homes, in which English types have been utilized. Another harmonious detail is the adoption of street names reminiscent of the Clyde shipbuilding district and of maritime history.

Most of the homes have been designed by E. W. Cannon, of Oakland, California, and some, as well as the hotel, by G. A. Applegarth, of San Francisco. The construction work is being done under the direction of A. H. Markwart, of San Francisco, General Manager of the Clyde Company. The Company also had the benefit of the advice of B. R. Maybeck, whose achievements, including those in the designing of the Palace of Fine Arts at the Panama Pacific International Exposition, need no enumeration.

THE ARCHITECT

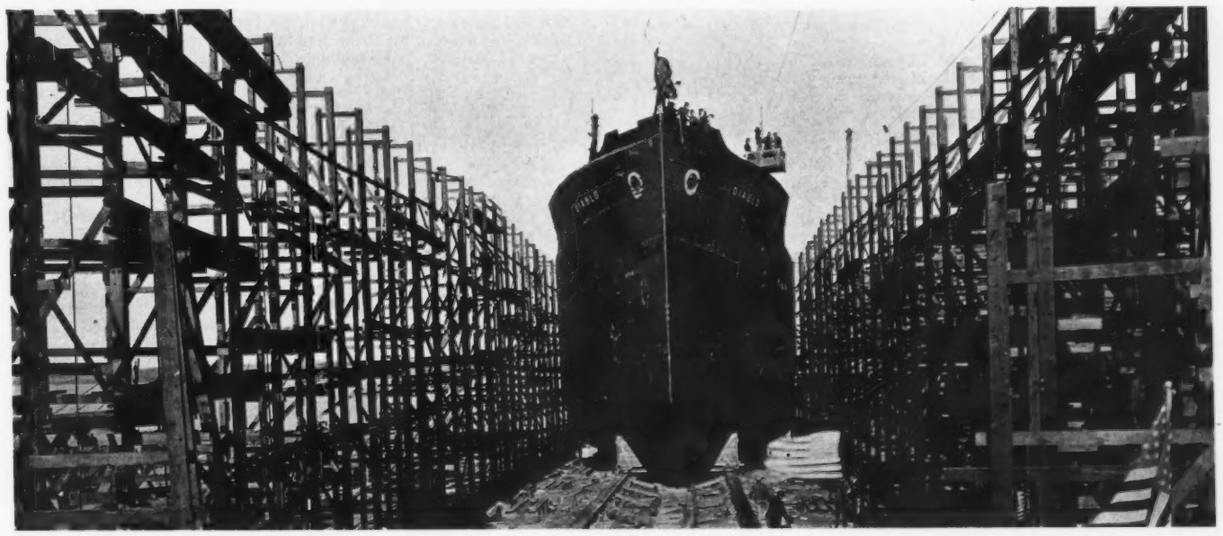
VOL. XVI SAN FRANCISCO, DECEMBER, 1918 NO 6.

Editorial.

THE low estate of the industrial arts is a common topic of discussion in artistic circles and art journals; and, we are inclined to think as we look about us, a legitimate one—(although it is not clear why the fine arts as well should be entirely excluded from the comment). All efforts to discover the causes and ameliorate the conditions deserve careful attention, and it is therefore with interest that we have received a communication from the Metropolitan Museum of Art in New York setting forth its plan to turn its resources to practical account. The Museum has established a department devoted specificaly to the requirements of producers and dealers in industrial art objects, a department which will make every effort to render accessible the invaluable resources of the collections for the betterment of American design and craftsmanship. This office will be in charge of Mr. Richard F. Bach, of Columbia University, well known for his contributions to journals devoted to architecture and the industrial arts. It is planned to make this departure on the part of the Museum directly useful to all designers and producers, dealers and manual craftsmen engaged in any way in connection with the making or selling of furniture, fabrics, floor coverings, clothing, metal work, woodwork, jewelry, laces, and other industrial art branches. An important function of Mr. Bach's department will be active co-operation with journals devoted to the arts.

In looking for remedies to relieve the artistic situation we are prone to see no further than what we term art education, which only too frequently means furnishing to prospective designers a smattering of archaeology. Neither abstract reasoning nor consideration of historical facts warrants excessive reliance in so facile a remedy. Some of the most creative epochs have been equipped with no knowledge, or with the most incomplete knowledge, of the achievements of previous eras. More important as affecting the really creative designer than a knowledge of the past seems to be the complicated interplay of social and economic forces which determines his attitude toward life and the way he moves and feels in the world. In other words, the real problem is not so much the formal instruction of the individual designer as the creation of a social environment in which art is desired and in which it can be spontaneously and joyfully created.

We have no intention, however, to decry the recent effort of the Metropolitan Museum. All improvement is to be welcomed. The active co-operation of the richest collection in America of fine and decorative art is certain to be of genuine value.



LAUNCHING OF THE DIABLO, YARD OF THE PACIFIC COAST SHIPBUILDING COMPANY

Official News of Pacific Coast Chapters, A. I. A.

The regular minutes of meetings of all Pacific Coast Chapters of the American Institute of Architects are published on this page each month.

San Francisco Chapter, 1881—President, Sylvain Schnaittacher, 333 Post Street, San Francisco, Cal.; Secretary, Morris M. Bruce, Flood Building, San Francisco, Cal. Chairman of Committee on Public Information, William B. Faville, Balboa Building, San Francisco. Chairman of Committee on Competition, William Mooser, Nevada Bank Building, San Francisco. Date of Meetings, third Thursday of every month; Annual, October.

Southern California Chapter, 1894—President, H. M. Patterson, 324 O. T. Johnson Building, Los Angeles, Cal. Secretary, H. F. Withey, 621 Exchange Building, Los Angeles, Cal. Chairman of Committee on Information, W. C. Pennell, Wright & Callender Building, Los Angeles. Date of Meetings, second Tuesday, except July and August, at Los Angeles.

Oregon Chapter, 1911—President, Joseph Jacobberger, Board of Trade Building, Portland, Ore. Secretary, Alfred H. Smith, Board of Trade Building, Portland, Ore. Chairman of Committee on Public Information, Ellis F. Lawrence, Chamber of Commerce Building, Portland, Ore. Date of Meetings, third Thursday of every month at Portland; Annual, October.

Washington State Chapter, 1894—President, Daniel R. Huntington, Seattle, First Vice-President, A. H. Albertson, Seattle, Second Vice-President, George Gove, Pullman. Third vice-President, Albert Held, Spokane. Secretary, Gerald C. Field, Seattle. Treasurer, Frank L. Baker, Seattle. Counsels: Charles H. Bebb, James H. Schack, James Stephen. Date of Meetings, first Wednesday, except July, August and September, at Seattle, except one in spring at Tacoma. Annual, November.

The American Institute of Architects—The Octagon, Washington, D. C. Officers for 1918: President, Thomas R. Kimball, Omaha, Neb.; First Vice-President, Charles A. Favrot, New Orleans, La.; Second Vice-President, George S. Mills, Toledo, Ohio; Secretary, William Stanley Baker, Boston, Mass.; Treasurer, D. Everett Waid, New York, N. Y.

Directors for Three Years—Edward W. Donn, Jr., Washington, D. C.; Robert D. Kohn, New York, N. Y.; Richard Schmidt, Chicago, Ill. **Directors for Two Years**—William B. Faville, San Francisco, Cal.; Burt L. Fenner, New York, N. Y.; Ellis F. Lawrence, Portland, Ore. **Directors for One Year**—Edwin H. Brown, Minneapolis, Minn.; Ben L. Lubschez, Kansas City, Mo.; Horace Wells Sellers, Philadelphia, Pa.

Minutes of San Francisco Chapter

DECEMBER 19th, 1918.

The regular monthly meeting of the San Francisco Chapter of the American Institute of Architects was held at the Union League Club on Thursday, December 19th, 1918. The meeting was called to order by the President Mr. Sylvain Schnaittacher, at 1. p. m.

Members present were:

G. A. Applegarth, Morris M. Bruce, J. W. Dolliver, E. G. Bolles, W. B. Faville, Kenneth MacDonald, Jr., Henry C. Smith, Fred H. Meyer, Smith O'Brien, Sylvain Schnaittacher, Arthur G. Scholz, T. Patterson Ross and Charles Peter Weeks.

MINUTES

The Minutes of the meeting held on November 21st, 1918, were read and corrected by the addition of the names of Messrs. Fred. H. Meyer and Smith O'Brien who were present at the November meeting, but whose names were inadvertently omitted. The Minutes were then approved as read.

UNFINISHED BUSINESS

There was no unfinished business.

REPORTS OF STANDING COMMITTEES

There were no reports from the Standing Committees.

SPECIAL COMMITTEES

COMMITTEE TO AUDIT BOOKS OF SECRETARY-TREASURER:

A written report was received from the Examining Committee stating that the books had been examined and were found to be correct.

GENERAL BUSINESS

A communication was read from Mr. E. T. Osborn relative to his resignation from the Chapter, which was accepted with regret; from Mr. George A. Dodge, manager of the Building Material Exhibit in relation to quarters for the Chapter and San Francisco Architectural Club with the Building Material Exhibit.

Mr. Fred H. Meyer moved that a committee be appointed to consider the offer of the Building Exhibit. Carried. The President appointed Mr. Meyer who will appoint such assistants as he may desire to communicate with the San Francisco Architectural Club in relation to proposed joint quarters with the Building Material Exhibit.

Mr. W. B. Faville reported on the work planned by the Directors of the Institute in regards to the $5,000 appropriation made to the Post War Committee who will formulate a program to be submitted to the Institute Convention in May.

It was duly moved, seconded and carried that the thanks of the Chapter be conveyed to the Union League Club for their courtesy in the use of their rooms for the holding of the meeting and luncheon.

The Chair announced the appointment of Mr. Leo J. Devlin to fill the unexpired term to October, 1919, of Mr. Wm. C. Hays who had been elected to the Vice-Presidency.

The Chair announced that no reports had been expected at this meeting from the Chairmen of the various committees as the time had been too short, but that it was hoped that each chairman would make some report at the next meeting of the Chapter.

ADJOURNMENT

There being no further business before the Chapter, the meeting adjourned at 3 p. m.

Subject to approval, , 1918.

MORRIS M. BRUCE, Secretary.

Minutes of Southern California Chapter

DECEMBER, 10th, 1918.

The one hundred and twenty-first regular meeting of the Southern California Chapter, A. I. A. was held at Hoffman's Cafe, 215 South Spring Street, Tuesday evening, December the 10th, 1918.

The meeting was called to order by the President, Mr. J. J. Backus, at 7:30 p. m. the following members being present:

J. E. Allison, J. J. Backus, G. E. Bergstrom, Theodore Eisen, F. D. Hudson, J. P. Krempel, Octavius Morgan, R. H. Orr, H. M. Patterson, T. F. Power, A. W. Rea, A. Wackerbarth, H. F. Withey and Wm. H. Willson.

As guests of the Chapter were present, State Senator Dwight Hart, and Mr. Prine, of the Southwest Builder and Contractor.

Minutes of the 120th meeting were read and approved.

There were no reports from the Executive Committee, nor from the Standing Committees.

Under the head of "New Business" the Secretary read the following communications:

From the Assistant Secretary George B. Robinson, of the Technical Societies, calling the Chapter's attention to a vacancy on the State Railway Commission, and suggesting that the Chapter communicate with the Governor, recommending that an engineer be appointed to this Commission. The letter was ordered filed.

From Morris M. Bruce, Secretary of the San Francisco Chapter, relative to the amount still owed by them on account of Assembly Bill No. 1126.

From Architect Anton Cerveny, suggesting that the Chapter interest itself in the establishment of a Museum of Architecture. The letter was ordered filed.

The Secretary reported the death of one of the Chapter members, Mr. Francis W. Young, which occured on November 24th. Mr. Wackerbarth moved, and it was duly carried, that a resolution of condolence be drafted and sent to the mother of Mr. Young. The President announced that he would appoint a committee to attend to the matter.

The next order of business was the election of officers for the ensuing year. The Secretary read the report of the Nominating Committee, dated November 7th, giving the following nominations:

President, H. M. Patterson; Vice-President, Lyman Farwell; Secretary, H. F. Withey; Treasurer, August Wackerbarth; Executive Committee, three year term, J. Constantine Hillman; two year term, Robert H. Orr; one year term, Walter E. Erkes.

Before proceeding with the election, the Secretary read a letter from Mr. Hillman declining the nomination to membership on the Executive Committee, as he was out of the city for an indefinite period. In substitution, the Nominating Committee offered the name of Mr. S. B. Marsten.

It was moved by Mr. Hudson, seconded by Mr. Krempel and unanimously carried, that the report be adopted, and that the Secretary cast the ballot. Whereupon the Secretary declared the ballot cast and the nominees elected as officers, to take their positions at the next meeting.

Under the heads of "Debates," the subject of the desired changes in the State Hotel and Housing Law was brought up, and generally discussed. It was moved by Mr. Allison and duly carried that the Chapter go on record as favoring the elimination of that clause in the Hotel Law which limits the construction of hotel buildings to the height of one and a half times the width of the abutting street, and that the height limit of one hundred and fifty feet be retained, as the Bill now stands. The President thereupon instructed the Committee on Permanent Legislation to draft a Recommendation to that effect in proper form and submit to the Legislature.

There being no further business, the meeting adjourned at 9:00 p. m.

H. F. WITHEY, Secretary.

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When you send us your order we don't file it for future delivery, but we get action on it right away, and there's no stopping till it's on its way. When you receive material from the National Mill & Lumber Co.'s hundred-acre mill you know it has been selected with exacting care from clear, well-seasoned lumber. Every piece is milled to conform to the exacting requirements peculiar to your project by the smoothest cutting machines obtainable. Let us prove to you that we don't let Father Time file your order, but get busy on it immediately. Write for quotations.

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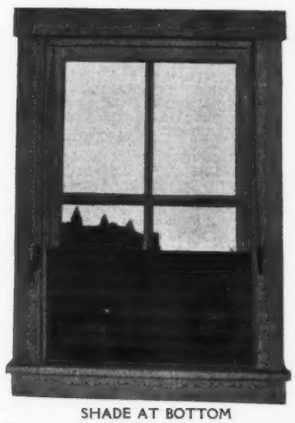
Perennial Window Shades

THE IDEAL ADJUSTABLE SHADE



SHADE AT BOTTOM

SHADE ONLY WHERE NEEDED

SHADE PARTLY DOWN

Extract of Requirements for Shades in the Consolidated Schools of Illinois

Overhead light is the best light. For this reason windows should come as near the ceiling as possible. Also the windows should not come below the eyes of the children when they are seated.

If the shades are hung at the top of the window, they shut out the best light. Yet if hung at the bottom so as to be drawn upward to exclude the rays of the sun, so much of the light is shut out that the children suffer.

A Shade which can be adjusted to any part of the window gives the best service. If roller shades are used, the best arrangement is to have two rollers at a window. One of these should be hung at the bottom and the shade be long enough to reach the middle of the window.

The other should be hung at the middle of the window and be long enough to reach the top when unrolled. Both rollers may be hung at the middle of the window, one rolling the shades upward and the other downward. **White shades are strongly recommended.**

Perennial Shades for schools can be adjusted to any part of the window. They are made of a light cream indestructible coutil cloth, which meets the requirements above called for. Perennial Shades are without question the best school shades on the market today.

Perennial Shades **are** the best, most dependable, strongest made, longest lasting and simplest working adjustable shades made.

J. A. DRUMMOND, Pacific Coast Representative, 245 MISSION STREET, SAN FRANCISCO, CAL.

ARCHITECTS' REFERENCE INDEX

Containing List of Manufacturers, Their Representatives and Serviceable Literature

ASBESTOS BUILDING LUMBER

Keasbey & Mattison Co., Ambler, Pa.

J. A. Drummond, 245 Mission Street, San Francisco, Cal.
Illustrated and descriptive pamphlet, 7¾x10¾, 8 pp. Pamphlet, 4x8½, 8 pp. Price list, 3½x6¼. Literature of various sizes, samples, etc. "Service Sheets," working drawings, details of application, size 16½x21½.

ASBESTOS CORRUGATED SHEATHING

Keasbey & Mattison Co., Ambler, Pa.

J. A. Drummond, 245 Mission Street, San Francisco, Cal.
Descriptive catalogue, 5¼x8¼, 24 pp. Catalogue of details and specifications for application of roofing and siding, size 8½x11, 40 pp. Lists of buildings covered. Price lists, 3½x6¼, 6 pp.; and literature of various sizes, samples, etc. "Service Sheets," working drawings, details of application, size 16½x21½.

ASBESTOS SHINGLES

Keasbey & Mattison Co., Ambler, Pa.

J. A. Drummond, 245 Mission Street, San Francisco, Cal.
Illustrated catalogue. Detail specifications, 8x10, 20 pp. Descriptive catalogue, various types of roof covering, 5¼x8¼. Various pamphlets, 3¾x6. Current price lists, 3½x6¼, 6 pp. Lists of buildings and literature, various sizes, samples, etc. "Service Sheets," working drawings. Detail of application, size 16½x21½.

BARS, REINFORCING

Pacific Coast Steel Co., Rialto Building, San Francisco, Cal.
Square, round and corrugated.

BRICK, ENAMELED

Los Angeles Pressed Brick Co., Frost Bldg., Los Angeles, Cal.

United Materials Co., 5 Crossley Bldg., San Francisco, Cal.
Catalogue on "Enameled Brick for Facing," illustrating and listing names of prominent buildings finished with Enameled Brick. 5x7½, 48 pp.

BRICK, FIRE AND REFRACTORIES

Los Angeles Pressed Brick Co., Frost Bldg., Los Angeles, Cal.
United Materials Co., 5 Crossley Bldg., San Francisco, Cal.
Descriptive catalogue, 5x7, 54 pp.
Simons Brick Company, 125 West Third Street, Los Angeles, Cal.

BRICK, PRESSED

Los Angeles Pressed Brick Co., Frost Bldg., Los Angeles, Cal.
United Materials Co., 5 Crossley Bldg., San Francisco, Cal.
Moulded and Ornamental Pressed Brick. General catalogue. 5x7, 54 pp.
Simons Brick Company, 125 West Third Street, Los Angeles, Cal.

BUILDINGS

Asbesto-Crete Buildings Co., 1927 Market St., Philadelphia, Pa.

J. A. Drummond, 245 Mission St., San Francisco, Cal.
Fireproof, Portable and Permanent, Inexpensive Buildings for use in Schools, Garages, Camps, Hospitals, Barracks, Seashore Bungalows and Oil Service Stations.

CEMENT, PORTLAND

Santa Cruz Portland Cement Co., Crocker Bldg., San Francisco.

Standard Portland Cement Co., Crocker Bldg., San Francisco, Cal.
Bulletin 12 pp. Size 6x9; also furnish bulletins and specifications for various classes of work requiring Portland Cement.

CORK FLOOR

Van Fleet-Freear Co., 120 Jessie Street, San Francisco, Cal.
Illustrated catalogues, etc.

DECORATORS, INTERIOR

O'Hara & Livermore, 522 Sutter Street, San Francisco, Cal.
O'Hara & Livermore, 253 East Colorado Street, Pasadena, Cal.

ELECTRICAL EQUIPMENT

Keasbey & Mattison Co., Ambler, Pa.

J. A. Drummond, 245 Mission Street, San Francisco, Cal.
Descriptive Pamphlet, 3½x6. 12 pp. Descriptive, 4x8½. 8 pp. "Service Sheets" working drawings. Detail of application. 16½x21½.

Walter Both, 1645 Mission Street, San Francisco.

ELEVATORS

Otis Elevator Co., Eleventh Avenue and 26th Street, New York.

Otis Elevator Co., 2300 Stockton Street, San Francisco, Cal. Offices in all principal Coast cities.
Otis Electric Traction Elevators. Bulletin. 6x9 in. 28 pp.

ESCALATORS

Otis Elevator Co., Eleventh Avenue and 26th Street, New York.

Otis Elevator Co., 2300 Stockton Street, San Francisco, Cal. Offices in all principal Coast cities.
Otis Escalators. Bulletin. 6x9 in. 36 pp.

FACTORY EQUIPMENT

Manufacturing Equipment and Engineering Co., Framingham, Mass.

J. A. Drummond, 245 Mission Street, San Francisco, Cal.
Bulletins and various literature. "Sanitary Washbowls," 6x9 in., 8 pp. "Metal Lockers," 6x9 in., 8 pp.; "Plumbing Fixtures," 6x8 in., 8 pp.; "Metal Stools and Chairs," 6x9 in., 8 pp.; "Metal Storage Racks," 6x9 in., 16 pp.; "Bubbling Fountains," 6x9 in., 4 pp.

GLASS

W. P. Fuller & Co. Principal Coast cities.
Plate, Sheet and Mirror Lists.
Glass Samples.

Keasbey & Mattison Co., Ambler, Pa.

J. A. Drummond, 245 Mission Street, San Francisco, Cal Pacific Coast representative CORRUGATED WIRE GLASS for skylight construction (without housings), used in connection with Asbestos Corrugated Sheathing. Catalogue of details. 8½x11. 40 pp.

INSULATED MATERIALS

Van Fleet-Freear Co., 120 Jessie Street, San Francisco, Cal.
Illustrated catalogues, etc.

IRONING BOARDS

National Mill & Lumber Co., 318 Market Street, San Francisco, Cal.
Pamphlet. 3½x6⅝ in. 4 pp.

LABORATORY FURNITURE

Leonard Peterson & Co., 1234-48 Fullerton Ave., Chicago, Ill.

J. A. Drummond, 245 Mission Street, San Francisco, Cal.
Catalogue No. 9 for Chemistry, Physics, Biology, Physiography, Domestic Science, Pathology, Hospitals, Filtration, City Testing, and Industrial Plants. 7x10 in., 95 pp.

LANDSCAPE ENGINEERS

MacRorie-McLaren Co., 141 Powell Street, San Francisco, Cal.
Descriptive catalogue. 5x8¾. 52 pp.

LIGHTING EQUIPMENT

The Reflectolyte Co., 914 Pine St., St. Louis, Mo.

J. A. Drummond, 245 Mission Street, San Francisco, Cal.
Reflectolyte, containing specifications, illustrations and engineering data for superior indirect illumination. 7¾x10½ in., 24 pp. Folder, 3½x6¼ in., illustrating the Junior Reflectolyte for inexpensive installation.

Walter Both, 1645 Mission Street, San Francisco.

MANTEL BRICK

Los Angeles Pressed Brick Co., Frost Building, Los Angeles, Cal.
United Materials Co., 5 Crossley Bldg., San Francisco, Cal.
Illustrative of designs for mantel. 5x6 in. 54 pp.

MILL WORK

National Mill & Lumber Co., 318 Market Street, San Francisco, Cal.
Catalogue of Moulding Columns, Doors and General Mill Work. 7x10. 94 pp.

PAINTS, ENAMELS AND WOOD FINISHES

Berry Bros., Wight and Leibe Streets, Detroit, Mich.

Berry Bros., 250 First Street, San Francisco. Cal.
Natural Woods and How to Finish Them. Complete varnish specifications. 4¾x6½ in. 94 pp.
Luxeberry Cement Coating. Color card. 3⅛x8⅞ in. 3 pp.

Boston Varnish Co., Everett Station, Boston.

San Francisco Office, A. L. Greene, Mgr., 269 Eighth Street.
Kyanize Enamel. Complete specifications. Booklet. 5x7 in. 20 pp.
Kyanize White Enamel. Directions. Circular. 3½x6 in. 8 pp.
Price List of Varnishes and Enamels. 3½x6 in. 24 pp.

W. P. Fuller & Co. Principal Coast cities.
Paints and Varnish specifications. 14-page booklet.
Pertinent Facts on Paints and Painting. 14-page booklet.
Color cards and descriptive circulars on: House Paints, Floor, Porch and special paints for all purposes.
Silkenwhite Enamel, Tinted Panels, and descriptive matter, Wall Finishes and Kalsomine. 20-page booklet.
Decorator's Sample Books.

R. N. Nason & Co., 151 Potrero Avenue, San Francisco, Cal.
Catalogues, literature and color cards.

Wadsworth, Howland & Co., Inc., 139 Federal Street, Boston.

San Francisco Office, James Hambly & Sons, 268 Market Street, San Francisco, Cal.

Los Angeles Office, 447-449 E. Third Street, Los Angeles, Cal.
Bay State Brick and Cement Coating. Catalogue. 4x9. 24 pp. Color plates.
Bay State Finishes, Stains, and Varnishes. Pamphlets. Color cards, etc.

PLUMBING EQUIPMENT

Pacific Sanitary Mfg. Co., 67 New Montgomery Street, San Francisco, Cal.

Northern Manager, H. L. Frank, 80 Front Street, Portland, Ore.

T. A. Williams, Scott Building, Salt Lake City, Utah.
General catalogue "C." 6½x9 in. 176 pp. Indexed.
School Sanitation Book. 6x9. 32 pp.
Export Catalog "E." 6x9. 160 pp.
Book of Bath Rooms (for clients). 6x9. 56 pp.

Standard Sanitary Manufacturing Co.
San Francisco Warehouse, Display Rooms and Offices, Bluxome St.
Los Angeles Warehouse, Display Rooms, Offices, Mesquit St.
Seattle, 5300 Wallingford Ave.
General Catalogue "P." 9x12, 674 pp. General Catalogue "PF," 9x12, 329 pp. Factory Sanitation Catalogue, 9x12, 36 pp. Built-in Bath, 9x12, 37 pp. Pottery Catalogue Sanitary Earthenware, 9x12, 38 pp. Shower Booklet, 3½x6, 19 pp. Efficiency Kitchen Book — Modern Kitchen Equipment, 5x7, 15 pp. Plumbing Fixtures for the Home, 5x7¾, 63 pp.

PIPE, WOOD

Pacific Tank & Pipe Co., 318 Market Street, San Francisco, Cal.
Catalogue of wood pipe and tanks for all purposes. 4x8¾ in. 40 pp.

PORTABLE HOUSES

National Mill & Lumber Co., 318 Market Street, San Francisco, Cal.
Catalogue Treatise on Portable House. Suitable for any location. Size 4x9. 12 pp.

REFRIGERATION

Kroeschell Bros. Ice Machine Co., 472 West Erie St., Chicago, Ill.
J. A. Drummond, 245 Mission Street, San Francisco, Cal.
Catalogue descriptive of installation for various purposes and types of buildings, 6x9 in., 12 pp. "Hospital Refrigeration," 6x9 in., 8 pp. "Marine Refrigeration," 6x9 in., 12 pp.

ROOFING

W. P. Fuller & Co. Principal Coast cities.
Samples and descriptive circulars.

ROOFING TIN

Taylor Co., N. & G., 300 Chestnut Street, Philadelphia, Pa.
J. A. Drummond, 245 Mission Street, San Francisco, Cal.
A Guide to Good Roofs. Booklet. 3¾x5⅞ in. 24 pp.
Selling Arguments for Tin Roofing. Booklet. 6x9¼ in. 80 pp.
"Service Sheets." Working Drawings. Details of tin roofing construction and tables of covering capacity. 16½x21½ in.
Standard Specifications for Tin Roofing Work. 7½x9 in.
Current Price List.

SCHOOL FURNITURE

Leonard Peterson & Co., 1234-48 Fullerton Ave., Chicago, Ill.
J. A. Drummond, 245 Mission Street, San Francisco, Cal.
Catalogue No. 8, complete equipment for Domestic Science and Manual Training Departments, 7x10 in., 64 pp.
Leonard Peterson & Co., 1234-48 Fullerton Ave., Chicago, Ill.
J. A. Drummond, 245 Mission Street, San Francisco, Cal.
Laboratory Furniture Catalogue No. 9 for Chemistry, Physics, Biology, Physiography, Domestic Science, Pathology, Hospitals, Filtration, City Testing, and Industrial Plants. 7x10 in., 95 pp.

SCREENS—FOR METAL SASH

Richard Spencer, 932 Hearst Building, San Francisco, Cal.

SEWER PIPE AND CLAY PRODUCTS

Gladding, McBean & Company, Crocker Bldg., San Francisco, Cal.
Los Angeles Office, Trust and Savings Bldg.
Price list No. 45 on Clay Products. 5x7½ in. 70 pages, containing illustrations.
Los Angeles Pressed Brick Co., Frost Building, Los Angeles, Cal.
United Materials Co., 5 Crossley Bldg., San Francisco, Cal.
Hand book and price list of sewer pipe, flue lining, chimney pipe and interlocking brick. 4x7. 22 pp.

SLIDING DOORS

National Mill & Lumber Co., 318 Market Street, San Francisco, Cal.
"Pitcher's Disappearing Door." Folder. 3½x6 in. 8 pp.

STEEL

Pacific Coast Steel Co., Rialto Building, San Francisco, Cal.
Open-hearth steel products.
Woods, Huddard & Gunn, 444 Market Street, San Francisco, Cal.

TANKS, WOOD

Pacific Tank & Pipe Co., 318 Market Street, San Francisco, Cal.
Catalogue illustrative and descriptive of house and building tanks, towers and wood pipe for various purposes. 4x9. 40 pp.

TERRA COTTA, ARCHITECTURAL

Los Angeles Pressed Brick Co., Frost Building, Los Angeles, Cal.
Specifications for architectural terra cotta and details of construction.

TILE, HOLLOW

Los Angeles Pressed Brick Co., Frost Building, Los Angeles, Cal.
United Materials Co., 5 Crossley Bldg., San Francisco, Cal.
Hollow Tile Fireproofing. General catalogue. 5x7 in. 54 pp.
Simons Brick Company, 125 West Third Street, Los Angeles, Cal.

TILE, ROOFING

Los Angeles Pressed Brick Co., Frost Building, Los Angeles, Cal.
United Materials Co., 5 Crossley Bldg., San Francisco, Cal.
Catalogue showing attractive application of details and specifications for roofing tile. 8x11 in. 32 pp.
Simons Brick Company, 125 West Third Street, Los Angeles, Cal.
Fibrestone & Roofing Co., 10th and Howard Sts., San Francisco, Cal.

TREES, PLANTS AND SHRUBS

MacRorie-McLaren Co., 141 Powell Street, San Francisco, Cal.
Descriptive catalogue. 5x8¾. 52 pp.

VARNISHES

Berry Bros., Wight and Leibe Streets, Detroit, Mich.
Berry Bros., 250 First St., San Francisco, Cal.
Natural Woods and How to Finish Them. Luxeberry cement coating color cards. 3⅛x8⅞. 3 pp. Complete varnish specifications. 4¼x6½. 94 pp.
Boston Varnish Co., Boston, Mass.
San Francisco Office, A. L. Greene, Mgr., 269 Eighth Street.
Kyanize White Enamel. Directory Circular. 3½x6 in. 8 pp.
Kyanize Enamel. Complete Specification Booklet. 5x7. 20 pp.
Price lists of varnishes and enamels. 3½x6. 24 pp.
W. P. Fuller & Co. Principal Coast cities.
Unvarnished Facts. 8-page pamphlet.
Varnish and Enamel Descriptive Catalogue. 32-page catalogue.
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R. N. Nason & Co., 151 Potrero Avenue, San Francisco, Cal.
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Samson Cordage Works, 88 Broad Street, Boston, Mass.
Pamphlet in colors. 3½x6¼. 24 pp.

WALL BOARDS

National Mill & Lumber Co., 318 Market Street, San Francisco, Cal.
Pamphlet. A treatise on application of wall boards. 3½x6⅝. 6 pp. Also sample.

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Color samples and descriptive circulars.
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Light.
Clears quickly of water.
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Fireproof.
Will outlast the building.
No trouble and but little expense to repair.
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245 Mission Street - - San Francisco, Cal.

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The "Target and Arrow" brand of roofing tin is carried in stock by leading wholesale hardware and sheet metal jobbers at principal distributing points throughout the United States.

Real Conservation may be Effected by the Erection of

Fireproof Asbesto-Crete Buildings

Fireproof, Portable and Permanent Inexpensive Buildings
In use for Schools, Garages, Camps, Hospitals, Barracks.
Portable, Indestructible, Fireproof Seashore Bungalows

THE ASBESTO-CRETE BUILDINGS COMPANY

Have made it possible

1st. To construct a roof or side wall that is fireproof, that will not admit rain or moisture, cannot burn or carry fire, and is not affected by sudden and violent changes of weather.

2nd. To provide a building that will practically last forever without repairing or patching — a building that will not require paint, and can not wear out.

3rd. To find a building that combines all these wonderful points of superiority with the possibility of unusual decorative treatment. Asbesto-Crete buildings are as inexpensive as they are beautiful, while the lines are clean cut and uniform, and they retain their original beauty without further attention.

These buildings can be erected in extremely short time by unskilled labor. Taking into consideration the present cost of skilled labor necessary to erect a frame, brick, stone, plaster or hollow-tile building that would even approximately compare with Asbesto-Crete construction in appearance and durability, the cost would be substantially more. This is especially true of the frame building or like type of construction that is to be painted.

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The construction of these buildings is such that double walls may be used in extremely cold climates, and single walls for warmer or moderate temperatures. Asbesto-Crete buildings located where zero weather prevails have been heated to 78° temperature without excessive use of fuel. They are also pleasantly cool in summer.

The sheets of Asbesto-Crete used in construction of these buildings are secured together with the Levens Patent Sheet Connectors, which act as a continuous spring on the lengthwise edge of the sheets, thus rendering an absolutely airtight, watertight and simple method of building the walls.

Each sheet contains fourteen square feet. They can be put together with amazing rapidity. Two men have erected 1000 square feet in an eight-hour day.

The Asbesto-Crete sheets are composed of the finest grade of Portland Cement and long-fibre Asbestos, hydraulically compressed under a weight of 750 tons to the square foot.

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The color of the sheets used in Asbesto-Crete buildings is what may be termed field or light gray which, when combined with a roof of red Asbestos Shingles and trimmings of harmonious colors, renders the beauty and design.

Asbesto-Crete buildings are so designed that the framing consists of a minimum number of pieces cut to fit, so there is no loss of time or material to the purchaser.

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It is a recognized fact that Asbestos and Cement are indestructible. Wood, unless frequently painted, will rot and decay. Brick and hollow-tile buildings have to be repainted at considerable expense continually.

Atmospheric conditions do not affect Asbesto-Crete buildings.

INSURANCE: Our buildings carry a much lower rate of insurance than other types of construction. No insurance is necessary other than for the contents.

TRANSPORTATION: The sheets, connectors and frame of these buildings are so compact that they require a minimum space for transportation.

ASBESTO-CRETE BUILDINGS COMPANY

PHILADELPHIA

Main Office, 1929 MARKET STREET, Philadelphia — Factory, AMBLER, Pennsylvania

J. A. DRUMMOND, California Representative
245 MISSION STREET, SAN FRANCISCO

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Makes Day of Night

THE REFLECTOLYTE is a scientifically constructed and mechanically perfect lighting unit, designed to radiate and diffuse the brilliant light of modern high-intensity lamps.

Unlike the average lighting unit, the reflector of the Reflectolyte is not simply covered with white paint or enamel, but is "fired on" porcelain.

Type P. F.
Band dull brass finish. Reflector, white porcelain enamel.

The result is a reflecting surface that is impervious to wear and which will remain white indefinitely after installation and use.

The sharp edge of a knife drawn along the surface of any reflector will determine its permanent quality. If a knife will remove the painted surface, the intense heat and the bleaching effect of the light must and will cause deterioration and final destruction of the reflecting surface.

Type A. N.

The reflecting surface of the Reflectolyte will remain white forever. The sharpest knife cannot remove it, and it is not affected by alcohol, gasoline, boiling water or heat not in access of 1000 degrees Fahrenheit.

The body of the reflector is made of heavy enameling steel of the best quality. The rim or band is brass covered, especially treated so that it will not tarnish.

Type J. Metal parts, dull brass finish. Reflector, opal glass.

ARCHITECTS, OWNERS, DEALERS, CONTRACTORS
Even if all other things were equal, you would give first consideration to a lighting system that promises to endure

THE REFLECTOLYTE CO.

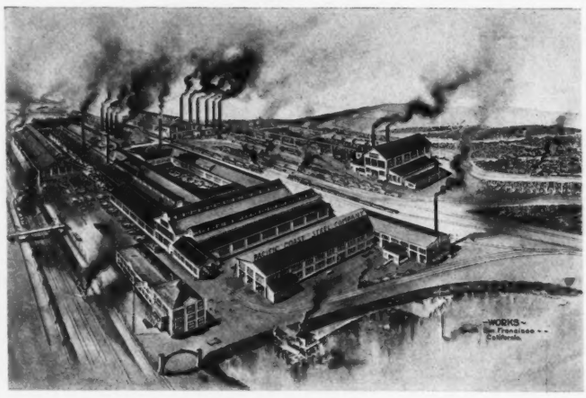
Manufacturers

J. A. DRUMMOND

California Representative

245 Mission Street San Francisco, Cal.

Catalogs and Information on Request



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Pacific Coast Steel Company

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General Offices, Rialto Building, San Francisco

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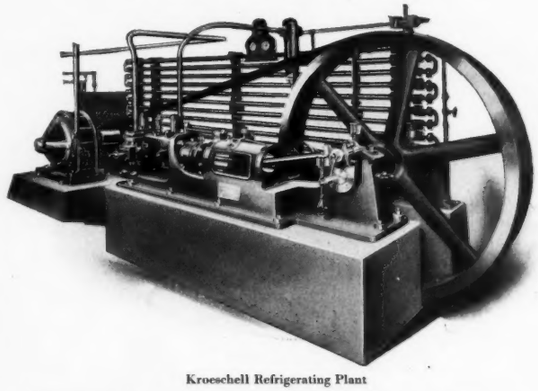
When selecting a refrigerating and ice making plant, the most important features to be sought are *safety, economy and efficiency.*

The Kroeschell Carbonic Anhydride System has all of these properties. The refrigerant, Carbonic Anhydride, is *absolutely safe*, there being no explosive and dangerous gases as is the case with other systems.



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Reasons why you should use the Kroeschell Carbonic Anhydride Refrigerating Plant:

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It is simple in construction and easy to operate.
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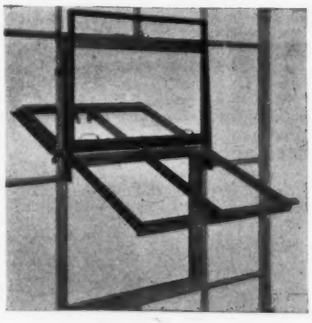

EXTERIOR VIEW
Note Simplicity and Neatness of Attachments

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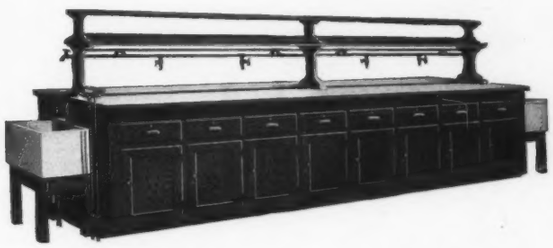
This table is arranged to accommodate four students, two working at one time. It is nickel plated standards and cross bar, with clamps for adjustment. It has diamond H plugs and receptacles for electricity, and hose cocks for gas. The table is furnished with or without the large drawers.



Students' Chemistry Laboratory Table

Arranged to Accommodate 16 Students Working in Sections of 8.

This table is arranged to give each student one large drawer and one cupboard. There is a gutter running the full length of the table, draining into a large sink at each end. The plumbing is exposed and complete to the floor line. We furnish the table in any length required.

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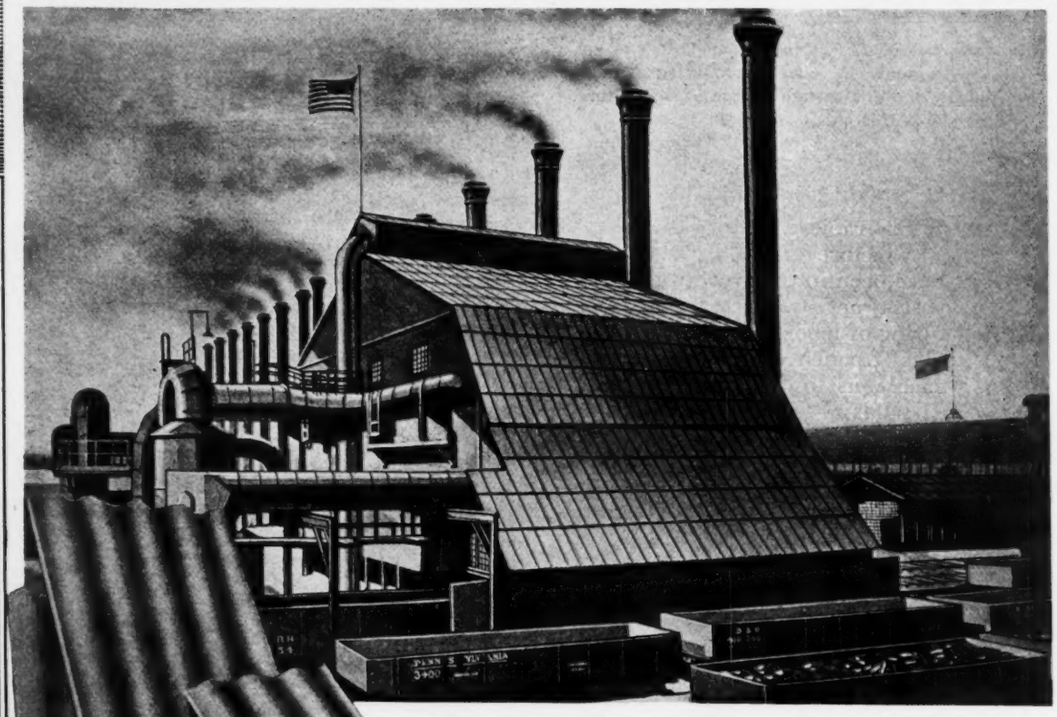

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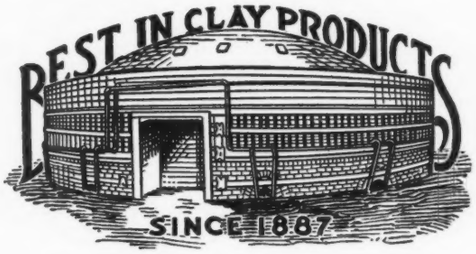

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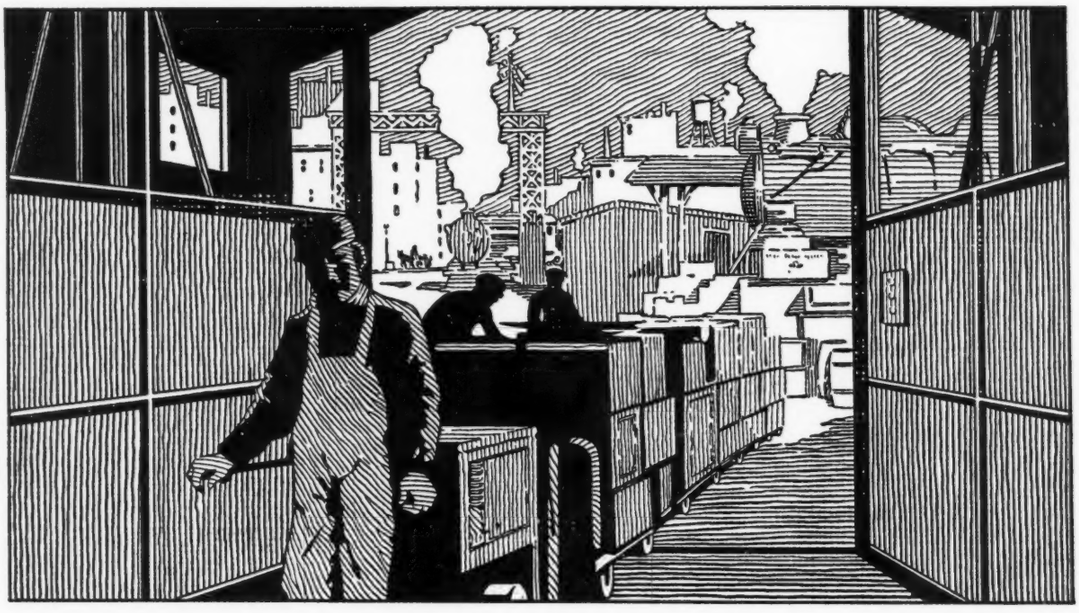

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